



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

IMB

Institute for Molecular Bioscience

An abstract biological illustration on a deep red background. It features various stylized cells and structures. Some cells are elongated and spindle-shaped with internal organelles like nuclei and mitochondria. Others are more rounded or spherical. A prominent feature is a large, blue, textured sphere with radiating lines, resembling a virus or a large protein complex. The overall style is artistic and scientific, with a focus on molecular biology.

ANNUAL REPORT 2014

ABOUT IMB

MISSION

Our mission is to advance scientific knowledge and deliver new health and industry applications.

VISION

Our vision is to be a global leader in the discovery and application of molecular life sciences research.

The University of Queensland's Institute for Molecular Bioscience (IMB) is a multidisciplinary scientific research institute committed to improving quality of life by pursuing discoveries in medical genomics, drug discovery and biotechnology.

Our researchers discover the fundamental mechanisms of biology and human disease and translate these findings into new drugs and diagnostics for global health, and improved products and processes for industry and the environment.

The impact of our research spans the areas of pain, superbugs, rare diseases, inflammation, cancer, infection, diabetes and obesity, agriculture, and clean energy.

Research divisions

- Chemistry and Structural Biology
- Genomics of Development and Disease
- Cell Biology and Molecular Medicine

Research centres and breakthrough programs

- Centre for Inflammation and Disease Research
- Centre for Pain Research
- Centre for Rare Diseases Research
- Centre for Superbug Solutions
- Breakthrough Science Program in Biomembrane Design
- Breakthrough Science Program in Algal Biomedicine
- Breakthrough Science Program in Mechanobiology

Strategic priorities

- Discovery excellence
- Translation impacts
- Learning
- Leadership and engagement
- Equity and sustainability

Share in our discoveries

Subscribe to our e-newsletter:
imb.uq.edu.au/subscribe

Join our online communities:

[Twitter.com/IMBatUQ](https://twitter.com/IMBatUQ)

[Facebook.com/InstituteForMolecularBioscience](https://facebook.com/InstituteForMolecularBioscience)

[Youtube.com/IMBatUQ](https://youtube.com/IMBatUQ)

Cover artwork

Risk, Receive, Recover by Joannah Underhill

An amalgamation of painted and digital objects collaged from the scientific laboratory, this painting features cellular shapes and forms in the construction of a new landscape representing the body. Through studying cells from her own body, the artist revealed many worlds within worlds when it comes to the cellular process.

The painting's title also refers to the artist's personal journey with cancer. Being able to see her cells under the microscope helped the artist to acknowledge the vulnerability of her cancer experience. All at once, the artwork was able to be alive with life, promise and possibility, while building a tension between the danger and possible side effects of the treatment itself, which is expressed through the redness of the background, and hope for a cure or freedom from disease.

The digital imagery in the work was key in terms of colour use but also for the opportunity to manipulate a way to re-create the body and its forms, almost seemingly being able to shift the power of creation and destruction to the artist and giving her ultimate power over the disease and her situation.

Risk, Receive, Recover forms part of Brisbane artist Joannah Underhill's IMB artist-in-residency collection, *Envisaging the Invisible*.

Read more at jounderhill.com.

You can buy official prints from the collection, which are signed by the artist, at imb.uq.edu.au/prints, with all proceeds supporting IMB's vital research.

Vale Joannah Underhill

IMB wishes to pay tribute to our dear friend and former artist-in-residence, Joannah Underhill (1978-2014). Jo's curiosity to understand and visualise how cancer changed her body saw her team up with our researchers in 2012. After looking at her own cells under the microscope, Jo was driven to create her residency collection, reigniting her love for art and helping her cope with her own cancer diagnosis and treatment. Our institute and community are brighter because of Jo, and her innovative collection will always inspire us to continue the conversation between science and art.

Acknowledgements

This report was published by IMB Communications in June 2015 and records the institute's achievements between 1 January — 31 December 2014. To enquire about this report please email communications@imb.uq.edu.au.

CRICOS Provider No. 00025B



CONTENTS

2 2014 SNAPSHOT

4 VICE-CHANCELLOR AND PRESIDENT'S MESSAGE

5 DIRECTOR'S MESSAGE

7 DISCOVERY

- 8 Research highlights
- 12 Research centres
- 14 Grants, fellowships and awards

17 LEARNING

- 18 Research training

23 ENGAGEMENT

- 24 Research commercialisation
- 26 Global collaborations
- 30 Community engagement
- 32 Scientific engagement

35 STRUCTURE AND GOVERNANCE

- 36 Organisational structure
- 38 Executive committee
- 42 Advisory board
- 44 Our people
- 47 Joint appointments and affiliates

49 SUPPORTING INFORMATION

- 50 Financial statement
- 51 Research grants list
- 56 Research support facilities
- 59 Occupational health and safety
- 60 Scientific publications
- 76 Discoveries for life

2014 SNAPSHOT

DISCOVERY



286
research staff



379
scientific publications



50
joint appointments and affiliates



60
high-impact scientific publications (impact factor >10)



35
group leaders



56%
total income sourced from competitive grants



35
competitive fellowships held



20
new research projects kicked off thanks to new funding



3
Fellows of the Australian Academy of Science



25
organisations awarded competitive funding to IMB

3 research divisions

7 on-site world-class research support facilities



LEARNING

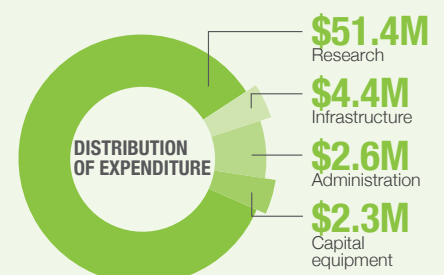
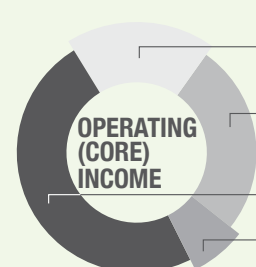


114
active research higher degree students



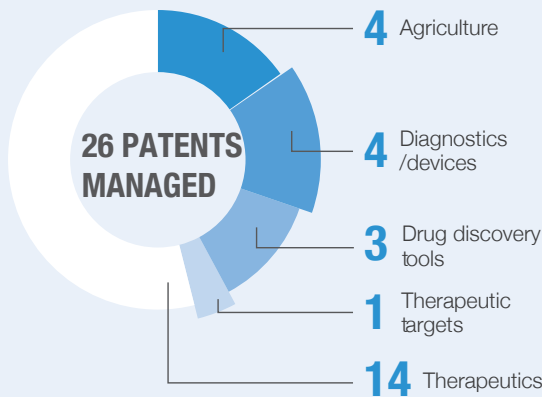
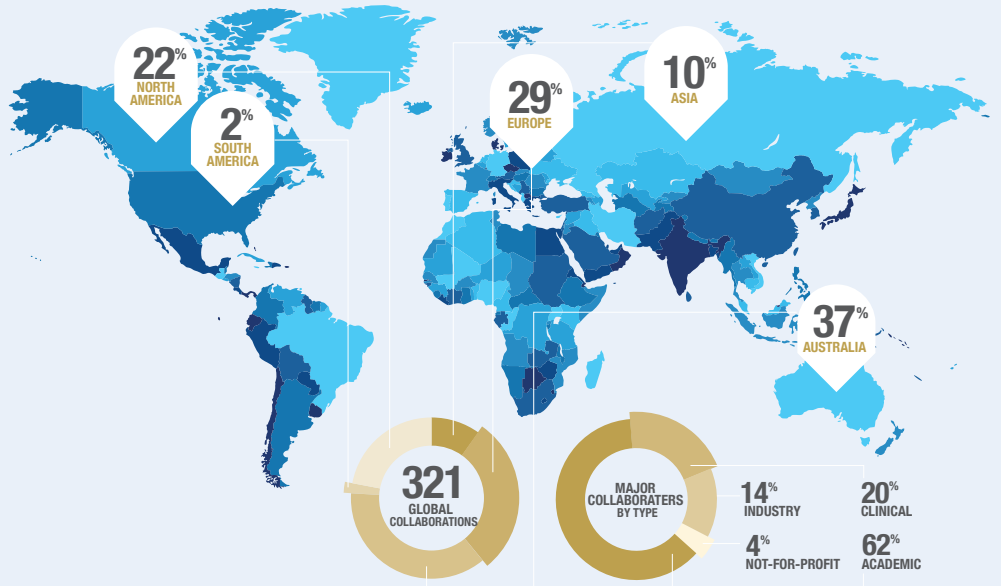
80%
honours students achieved first class honours

INSTITUTE PE





ENGAGEMENT



2414
external visitors to the Queensland Bioscience Precinct



161
UQ undergraduate lectures delivered by IMB researchers



32
volunteer science ambassadors



700+
high school and uni students toured IMB



33
research higher degree students graduated



\$30k
IMB Research Advancement Award top-up scholarship launched

PERFORMANCE



459
researchers, postgrad students and support staff



\$5
delivered to the community for every \$1 invested by the Queensland Government



1100+
media mentions valued at \$5.6 million



40
seminars hosted as part of IMB's Friday seminar series



VICE-CHANCELLOR AND PRESIDENT'S MESSAGE

As an institute dedicated to excellent science with community impact, IMB produces high-quality outcomes for individuals and societies.

IMB is pivotal to The University of Queensland's (UQ's) global and national strengths in the life sciences, and as such it builds our capacity to lead and be part of projects targeting major global challenges.

IMB also buoys UQ's capacity to attract exemplary staff and students; gain vital industry, philanthropic and government support; and generate economic growth, employment and exports. As Queensland's largest life sciences institute, it is an underpinning of the state's life sciences industry – a knowledge-intensive industry that fulfils increasingly important roles in the state and national economies.

IMB contributed not only to UQ's position well-within the top 100 of a number of widely-recognised global university rankings, but also to our stature in the prestigious *Nature Publishing Index*, where UQ leads Australian institutions and is amongst the Asia-Pacific's top 10. Impressively, IMB researchers contributed 48% of UQ's *Nature Publishing Index* as of December 2014.

Importantly, IMB's drive for scientific excellence is accompanied by dedication to what I call "excellence-plus" – the translation of great research into tremendous products and services for society.

The continuum from excellence to societal benefit was reflected and recognised many times throughout 2014. For example:

- Professor Matthew Cooper and his team from IMB's new Centre for Superbug Solutions received \$3 million from the Wellcome Trust for a global initiative to accelerate the search for new compounds to combat superbugs;
- Professor David Craik received both the 2014 Ramaciotti Medal for Excellence in Biomedical Research and the GlaxoSmithKline Award for Research Excellence;
- Professor Sean Grimmond and his Queensland Centre for Medical Genomics colleagues were ranked the highest contributors outside the USA of genomic data to the International Cancer Genome Consortium (one of the world's biggest and most successful cancer research collaborations); and
- Professor Melissa Little and her team signed an agreement with US biotechnology company Organovo to work towards producing 3D printed kidney tissue.

As well, Professors David Fairlie and Rob Parton are part of two new Australian Research Council Centres of Excellence - respectively in Advanced Molecular Imaging, and Convergent Bio-Nano Science and Technology. Researchers from other areas of UQ also feature in these collaborative centres.

The track record of IMB staff and students has positioned the institute to forge further collaborations and partnerships of premium quality. Already, the IMB has demonstrated the power of philanthropic vision to deliver appreciable benefits, especially when backed up by government support and industry partnerships.

I congratulate and thank Professor Brandon Wainwright and all IMB staff, students, and supporters who have been instrumental to the positive outcomes achieved during the year. I look forward to following your future discoveries, and the benefits they will yield for many generations, well into the future.

Professor Peter Høj
Vice-Chancellor and President



DIRECTOR'S MESSAGE

During the year we looked to the future and focused on renewing our strategic direction to better position IMB to meet the challenges of a changing life sciences sector.

Fostering growth

Many months of hard work came to fruition with the launch of our new research centres and breakthrough science programs. Focusing on IMB's research strengths in pain, superbugs, inflammation, and rare diseases, the new centres will bring together multidisciplinary teams of researchers, clinical collaborators, and industry partners to apply IMB's research and develop new solutions for how we prevent, diagnose and treat these health challenges.

Sitting alongside our centres are our breakthrough science programs in algal biomedicine, mechanobiology, and biomembrane design, which will pursue cutting-edge science to advance new knowledge and develop technologies in these fields. Our new centres and programs are an exciting addition to the institute and we look forward to sharing their progress with you in the year ahead.

Another positive addition to the institute was the establishment of our new advisory board, which will guide IMB's operations as a leader in research, commercialisation, philanthropic and engagement activities.

Its members, including Chair Dr Cherrell Hirst AO, bring a wealth of scientific, industry and university expertise to their roles, and generously volunteer their expertise and time to support our mission to advance scientific knowledge and deliver new health and industry applications for the benefit of our community. The board is working closely with IMB's executive team to develop a five-year strategic plan for the institute. Now more than ever, we must be prepared to adapt to future opportunities and challenges, especially given the increased competition for research funding and investment, so we will be working hard to finalise and roll out this plan during 2015.

In a further effort to consolidate our research strengths, we merged two of our foundational research divisions into a new division for Genomics of Development and Disease. Our new division has already proven to be a powerful platform to extend the institute's capabilities in harnessing genomic sequencing technologies to diagnose and develop personalised treatments for people affected by inherited and developmental diseases.

During the year we welcomed Dr Irina Vetter as our newest group leader. Irina joined IMB as a postdoctoral researcher in 2008 and this year was awarded a UQ Foundation Research Excellence Award and the Women in Technology Rising Star Award. Irina's research focuses on investigating the neuropharmacology of pain, and using venoms and toxins to understand the mechanisms of how the body feels pain to identify novel pain targets for improved treatments.

Partnering for innovation

IMB's culture of collaboration and innovation has attracted the support of many leading organisations over the years. In 2014 IMB continued its successful track record in the Australian Research Council's (ARC) Linkage grants scheme, which supports research and development projects between higher education researchers and industry. In addition to managing 10 existing ARC Linkage grant partnerships, the institute secured two new collaborative agreements with Phylogica Pty Ltd and Mater Misericordiae Health Services.

Our research was also bolstered by philanthropic support. We were grateful to receive a \$1.5 million grant from the Cure Brain Cancer Foundation to fund a John Trivett Senior Research Fellow to be based at IMB and the Queensland Brain Institute. This community-funded fellowship will allow us to recruit the best and brightest to our team in 2015.

Our Centre for Rare Disease Research formed an innovative partnership with clinicians at Genetic Health Queensland. Together, the team uncovered the gene behind a young Brisbane boy's rare condition and will continue to work together to find answers to some of our state's most challenging genetic health conditions.

During the year, we also hosted our first two Life Sciences@UQ forums, which are designed to provide an opportunity for researchers, industry and government to network a globally competitive life sciences sector and ecosystem for Queensland. We look forward to hosting further forums in the year ahead.

Celebrating research excellence

As an institute, IMB continued its successful track record in securing competitive funding from the National Health and Medical Research Council (NHMRC), the ARC, and other government and industry sources. More than 56 per cent of IMB's total income was derived from competitive grant funding in 2014, demonstrating the high quality and relevance of our research.

We congratulated numerous researchers in 2014, whose hard work and impressive outcomes have been noted at the top. Notably, we celebrated the achievements of Professor David Craik, whose outstanding research in the field of circular proteins was recognised when he became the third IMB researcher to receive the GlaxoSmithKline Award for Research Excellence, and the first to receive the prestigious Ramaciotti Medal for Excellence in Biomedical Research.

Many of our early and mid-career researchers also had a tremendous year with four of our young IMB scientists receiving UQ postdoctoral research fellowships. Moreover, to help us recruit the most talented future scientists, we launched our postgraduate research advancement awards, which offer \$30,000 top-up PhD scholarships to help our young achievers kick-start their careers. I would like to congratulate our two inaugural award winners, Emily Furlong and Claudia Stocks.

This report is a record of our collective achievements in 2014 and I commend and thank our staff, students, donors and partners for your support and the important role you play in our continued success.

Professor Brandon Wainwright
Director



Dr Kate Schroder



DISCOVERY

RESEARCH HIGHLIGHTS | RESEARCH CENTRES | GRANTS, FELLOWSHIPS AND AWARDS



DISCOVERY

RESEARCH HIGHLIGHTS



Global search for next antibiotic

The alarming growth of antibiotic resistance could see a return to the pre-antibiotic era when even a simple infection caused death. To combat this threat, IMB researchers have commenced a global search to discover antibiotics capable of fighting superbug bacteria that are resistant to current antibiotics.

The Community for Open Antimicrobial Drug Discovery (CO-ADD) is a not-for-profit initiative funded by a \$3.1 million grant from the Wellcome Trust and UQ, and led by IMB researchers. The initiative, which was a finalist in this year's *The Australian Innovation Challenge*, will invite chemists from around the world to submit their compounds for free screening against strains of bacteria and fungi that cause life-threatening infections.

CO-ADD Director Professor Matthew Cooper hopes the next antibiotic could be out there sitting on a laboratory shelf.

Visit www.co-add.org to get involved.



Genetic test unlocks cause of Brisbane boy's rare disease

Eleven-year-old Seth De Rooy is one of only seven people in the world diagnosed with the rare development condition Temple-Baraitser syndrome (TBS), which causes severe epilepsy, intellectual disability and low muscle tone.

In partnership with clinicians from Genetic Health Queensland, IMB scientists led an international effort to uncover the gene behind the condition using genetic sequencing and analysis.

The team's findings, published in *Nature Genetics*, will be immediately useful in prenatal genetic screening to help future parents make informed choices and could also help identify existing drugs that could be effective on this gene and help minimise some of the symptoms of TBS.

Taking the guesswork out of chemotherapy

More effective drugs targeting the genetic profile of an individual's cancer could soon be a reality thanks to efforts by IMB researchers to identify the major underlying genetic mutations in pancreatic and ovarian cancers, two of Australia's most ruthless cancers.

The research team, led by Professor Sean Grimmond, contributed the highest amount of genomic data outside the US to the International Cancer Genome Consortium (ICGC), one of the biggest and most successful global research collaborations.

Professor Grimmond and his Australian colleagues sequenced and analysed the genomes of 517 pancreatic cancer samples and 93 ovarian cancer samples, and compared these cancer samples to matched samples from normal tissue to identify the faults in our DNA that lead to cancer. Using this data they were able to create a detailed atlas of pancreatic and ovarian cancers that could make it easier for clinicians to diagnose and treat patients who carry these same faults in their DNA and help take the guesswork out of chemotherapy.





PICTURED (LEFT TO RIGHT): Professor Matt Cooper; Steve, Seth and Chris De Rooy with Dr Cas Simons; Professor Jenny Stow with her research team; Professor Melissa Little with Queensland Science Minister Ian Walker.



Paving the way for new anti-inflammatory drugs

Uncovering how an important pair of molecules, found in our immune cells, work together to switch 'off' inflammation could pave the way for new anti-inflammatory drug targets to improve the way we treat cancer, obesity, inflammatory bowel disease and other chronic diseases caused by inflammation.

Inflammation is the body's first line of defence against threats such as infection or injury. However, when inflammation continues and is unable to turn itself 'off', it becomes unhealthy and can be a trigger for many chronic diseases. Research from Professor Jenny Stow's group, published in *Nature Communications*, has revealed the molecular mechanism that allows cells to control a critical 'off' signalling pathway in inflammation.

One of the molecules involved in the switch has already been targeted for anti-cancer therapy. The researchers hope to re-purpose this cancer drug to one that could be used as a novel anti-inflammatory therapy.

Translating nature's secrets into new drugs

For more than two decades, biological chemist Professor David Craik has worked to translate nature's secrets into new drug solutions for pain, cancer and heart disease. In 2014, he was awarded the prestigious Ramaciotti Medal for Excellence in Biomedical Research and the 34th GlaxoSmithKline Award for Research Excellence for his pioneering work.

Professor Craik discovered the largest known family of circular proteins in plants called cyclotides. He has designed a way to chemically tie up the loose ends of proteins – the building blocks of life – and make them into stronger, circular versions of themselves.

These 'designer' cyclotides make better oral drugs because their internal structure prevents them from being chewed up by enzymes in the digestive system, allowing them to be absorbed into the body where they can achieve their desired effect.

His team is using cone snail venom to develop a pain relief drug 100-times more potent than morphine. They are also producing peptide-based drug leads in edible plant seeds which could be used to treat chronic diseases and give developing countries access to produce vital medicines.

Printed kidney tissue closer to reality

Printing 3D human kidney tissue is one step closer to reality thanks to a partnership between UQ and San Diego-based biotech company, Organovo, which specialises in 3D printing of human tissues.

Organovo will work with IMB's Professor Melissa Little and Australian Institute for Bioengineering and Nanotechnology's (AIBN) Professor Justin Cooper-White to produce 3D printed kidney tissue in the fight against chronic kidney disease.

3D printing of fully functional kidney tissue would lead to better disease modelling and drug development. The researchers aim to grow mini-organs from the cells of patients with genetic kidney disease to better understand the nature of each patient's disease and to test treatments that may improve renal function.

The mini-kidneys could also be used to test the safety of new drugs. Most new drugs fail during testing in humans and a big reason for that is they turn out to be toxic to kidneys. These mini-kidneys would allow us to test a drug for kidney toxicity before commencing human trials.



Professor Paul Alewood



Professor George Muscat with his research team

Love drug may treat abdominal pain

The key to treating chronic abdominal pain may lie in a hormone that induces labour and encourages social bonding. Oxytocin is known as the 'love drug' for its ability to enhance social interactions including maternal behaviour, partnership and bonding.

In a study led by Professor Paul Alewood and published in *Nature Communications*, the researchers developed a version of the hormone oxytocin with improved stability. This new version could potentially survive in the digestive tract until it reaches the gut. It has significant potential in alleviating abdominal pain, without affecting healthy gut tissue.

There are currently no drugs available to treat chronic abdominal pain associated with conditions such as irritable bowel syndrome. IMB researchers hope that this new version of the oxytocin 'love drug' may help alleviate some of the pain experienced by sufferers.

Gene helps predict breast cancer survival

Doctors may be able to more confidently predict outcomes for breast cancer patients following an IMB discovery that breast cancer patients with a particular genetic 'signature' are more likely to survive without their cancer spreading.

Researchers examined tissue samples from over 100 breast cancer patients and discovered those with low levels of the enzyme PRMT2 had a better chance of surviving without their cancer spreading.

This protein affects hundreds of other genes and proteins in the body, so the scientists examined all of these and found another protein (RORγ) that could be targeted by cancer drugs to improve patient outcomes.

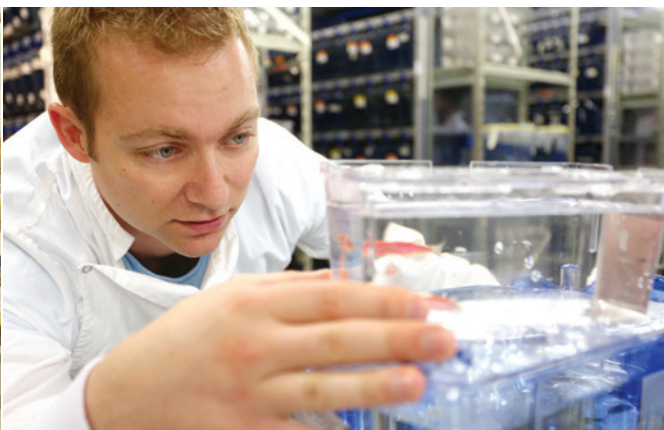
The team has received a \$100,000 grant from Cancer Council Queensland and is currently developing experimental drugs that target RORγ to evaluate whether they can stop tumour growth and control the spread of cancer.

Height protein could be key to treating cancer and diabetes

Growth hormone, as its name suggests, determines how tall you will grow. But in research published in *Science*, Professor Mike Waters and Dr Andrew Brooks have found it could also be used in treating a number of diseases including cancer and diabetes.

It is the culmination of 45 years of growth hormone research for Professor Waters, who originally cloned the receptor with Genentech, one of the world's leading biotechnology companies. Inspired by the fact that people without the growth hormone receptor don't die from cancer or diabetes, Professor Waters set out to understand how growth hormone worked.

Now, the research team has revealed the molecular process of growth – including how it turns off and on – giving researchers a clear idea of which part of the molecule to target when developing new drugs.



TOP LEFT: Dr Ben Hogan **BOTTOM LEFT:** Professor Mike Waters and Dr Andrew Brooks **RIGHT:** Dr Silmara Rodrigues de Sousa

Sex determination differs in mice and men

IMB scientists moved a step closer to grasping what makes men 'male'. The sex-determining region (SRY) found on the Y chromosome can affect development of the reproductive organs and genitals, but the exact processes behind sex-determination are only starting to be unravelled.

The research team, led by Professor Peter Koopman and published in *Proceedings of the National Academy of Sciences*, reveals a key difference in how SRY operates in humans compared to mice, two highly related species.

These insights will help scientists to better understand the mechanisms behind how the Y chromosome makes men male in the hope of helping the hundreds of children born each year with disorders of sex development.

Kidney disease gene controls cancer highway

Researchers have found a gene known to cause kidney disease can also control growth of the lymphatic system, a key route through which cancer spreads.

Pkd1 is the most frequently mutated gene in autosomal dominant polycystic kidney disease, which causes cysts to develop on kidneys and can lead to renal failure.

In the study, led by Dr Ben Hogan and published in *Cell Reports*, the researchers showed Pkd1 also controls lymphatic vessel development, a finding the team hopes they may be able to exploit in developing future cancer therapeutics.

Cancers use lymphatic vessels as a 'highway' through which they can spread to other tissues. Most cancer deaths occur because of cancer spread, so understanding how lymphatic vessels grow and develop into a regulated network is vital to developing better treatments.

Cone snails provide clues to treating chronic pain

Professor Richard Lewis and his team have shown that cone snails can switch between distinct venoms depending on whether they are hunting or defending themselves. The discovery, published in *Nature Communications*, provides insight into the evolution of venomous animals and could lead to new treatments for chronic pain in humans. The scientists hope to investigate how these predatory and defensive venoms are produced and regulated, and use these findings to target those toxins with direct therapeutic potential.

'Make-or-break' protein holds key to cancer spread

A team of biologists, physicists and mathematicians have made important new insights into cancer biology, discovering a protein in cells that could block the escape route of potentially cancerous cells and stop them spreading to other parts of the body. Lead researcher Professor Alpha Yap says the findings, which were published in *Nature Cell Biology*, could lead to more targeted treatments for cancer and other diseases.

DISCOVERY

RESEARCH CENTRES

“The creation of the Centre for Rare Diseases Research supports the international goal of identifying the molecular cause of most rare diseases within the next five years.”

*Associate Professor
Carol Wicking*

Centre for Rare Diseases Research

Did you know around 80 per cent of rare diseases are caused by mutations in our genes?

The IMB Centre for Rare Diseases Research (CRDR), which is a collaboration between IMB and UQ Diamantina Institute, aims to identify the genetic mutations causing the diseases, confirm the link between mutations and the diseases, and model mutations in cell and animal models to better understand what has gone wrong in affected cells and tissues. This information will have implications for diagnosis, and will aid in future development of therapies for patients living with a rare disease.

Centre Director Associate Professor Carol Wicking said rare diseases are more common than the name suggests.

“There are more than 8,000 known rare diseases and around 250 new rare diseases are discovered every year.

“While each may be rare, together rare diseases are common, affecting more than 1.2 million Australians — including 400,000 children — and 70 million people globally.

“Many rare diseases — such as congenital heart disease, leukodystrophies, and some cancers — are chronic and life-threatening, and often begin in childhood. They can affect any organ in the body and frequently affect more than one,” Associate Professor Wicking said.

Researchers at the centre are working with clinical and research colleagues around the world to investigate a range of rare diseases, including diseases of the brain, heart, kidneys, reproductive system, skeleton, muscles and vasculature.

Director: Associate Professor Carol Wicking

Website: rarediseases.imb.uq.edu.au

Email: rarediseases@imb.uq.edu.au

Centre for Pain Research

IMB's Centre for Pain Research (CPR) is working with experts across the world to develop new treatments for the one in five Australians living with chronic pain.

Our aim is to discover and develop new molecules for treating pain in humans. Specifically, we focus on pain that is difficult to manage, such as burn, neuropathic, diabetic, chemotherapy and cancer pain.

Our researchers use advanced technologies to accelerate discovery and optimisation of analgesic small molecules, peptides, and natural products. We also examine their characterisation in disease and pathway-specific models of analgesic efficacy.

Our vision is to discover and characterise pain targets and pathways associated with chronic pain and identify molecules that will improve the treatment of chronic pain.

We know that many current painkillers are not effective and come with a number of unpleasant side effects. Through our centre's multidisciplinary approach to pain research, we are working to change this by developing new treatment options to improve quality of life for people living with chronic pain.

“Through research, we can gain a better understanding of how the body feels pain and, in partnership with pain specialists, source solutions to major problems faced by people living with pain.”

Professor Richard Lewis

Director: Professor Richard Lewis

Deputy Director: Dr Irina Vetter

Website: pain.imb.uq.edu.au

Email: pain@imb.uq.edu.au



Dr Alysha Elliott is a part of the CSS team searching for the world's next antibiotic



Associate Professor Carol Wicking hopes the CRDR will help improve quality of life for people living with a rare disease

Centre for Inflammation and Disease Research

Inflammation plays an essential role in detecting and eliminating danger, repairing tissue damage, and returning our bodies to normal health.

Uncontrolled or dysregulated inflammation, however, can aggravate diseases such as chronic liver disease, inflammatory bowel disease, arthritis, asthma, dementia, psoriasis, diabetes and cancer.

IMB's Centre for Inflammation and Disease Research (CIDR) brings together basic research with drug discovery and development. This unique multidisciplinary approach allows the centre's researchers to discover the molecular and cellular processes of inflammation, understand how inflammation progresses to disease, and transfer this knowledge into new drugs — as well as repurposing existing drugs — to prevent and treat inflammatory diseases.

The centre is focused on identifying biomarkers and druggable inflammatory pathways for specific inflammatory diseases, such as chronic liver disease. We are also developing new technologies, such as biosensors, to track the migration and status of inflammatory cells and mediators, which can help identify new drug targets and guide the development of new diagnostics.

"Inflammation acts as the body's alarm system during infection and injury, and is essential for the body's healing processes," explained Centre Director, Associate Professor Matt Sweet.

"We also know that genetic and environmental factors can trigger uncontrolled inflammation, causing significant pain to those affected."

"Understanding how inflammation becomes dysregulated is so important to our efforts to develop more effective anti-inflammatory drugs."

Associate Professor Matt Sweet

Director: Associate Professor Matt Sweet
Deputy Director: Dr Kate Schroder
Website: inflammation.imb.uq.edu.au
Email: inflammation@imb.uq.edu.au

Centre for Superbug Solutions

The World Health Organisation has declared antimicrobial resistance, or superbugs, to be one of the greatest threats to human health.

Resistance to antibiotics is a growing global problem in treating infections, resulting in illnesses lasting longer and increasing costs to the healthcare system.

IMB's Centre for Superbug Solutions (CSS) is working to understand the chemistry and biology of infections. With this knowledge, centre researchers can discover new drugs and redesign existing drugs to improve effectiveness and help save lives.

"Superbugs cost the Australian economy in excess of \$1 billion each year, while bacterial infections kill more than 170 Australians each week," said Centre Director, Professor Matt Cooper.

"Now is the time to come together and help our community stop superbugs in their tracks before it's too late."

The centre brings together clinicians, chemists, microbiologists and pharmacists from around the world who are developing faster and more accurate diagnostics to help doctors diagnose and track superbugs.

As part of the centre's Community for Open Antimicrobial Drug Discovery (CO-ADD) initiative, they are also fast-tracking the discovery and development of new antibiotics to treat multidrug-resistant bacteria, including those that cause skin infections, sepsis, pneumonia, tuberculosis and urinary tract infections. Through these combined efforts, they hope it will help doctors to give their patients the most effective drug, the first time, in time.

Director: Professor Matt Cooper
Deputy Director: Dr Lachlan Coin
Website: superbugs.imb.uq.edu.au
Email: superbugs@imb.uq.edu.au

"New treatments are urgently needed to prevent a return to the pre-antibiotic era, when even simple infections caused death."

Professor Matt Cooper



DISCOVERY

GRANTS, FELLOWSHIPS AND AWARDS

Competitive grant funding represented 56 per cent (\$31.8 million) of IMB's total income in 2014 (\$56 million), reflecting the high quality and scientific importance of our research.

Grants

The institute performed well in the major competitive grant rounds offered during the year by the Australian Research Council (ARC), National Health and Medical Research Council (NHMRC) and Queensland Government.

IMB achieved above national average success rates, recording a 28.6 per cent success rate against a national average success rate of 19.9 per cent for ARC Discovery Project grants, and a 37 per cent success rate against a national average success rate of 16.9 per cent for NHMRC Project grants.

In 2014, funding commenced for the following grants:

- 13 NHMRC Project grants totalling **\$8,768,964**
- 3 NHMRC Development grants totalling **\$1,495,178**
- 4 ARC Discovery Project grants totalling **\$1,300,000**.

Fellowships

IMB Fellows are supported by a range of competitive fellowship schemes. Thanks to the support of these funding organisations, IMB Fellows have the opportunity to conduct valuable research with the potential to advance global scientific progress and improve the health and wellbeing of people around the world.

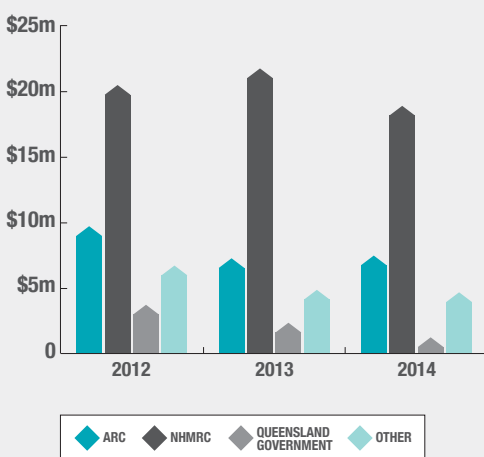
Total competitive fellowships held in 2014:

- 1 ARC Australian Laureate Fellow
- 1 ARC Discovery Outstanding Researcher Award (DORA)
- 7 ARC Future Fellows
- 4 ARC Discovery Early Career Researcher Awards (DECRA)
- 14 NHMRC Research Fellows
- 2 NHMRC Career Development Fellows
- 5 NHMRC Early Career Fellows
- 1 Queensland Smart Futures Fellow.

Fellowships commencing in 2014:

- 1 Australian Diabetes Society—Skip Martin Early Career Fellowship totalling **\$85,000**
- 2 ARC Future Fellows totalling **\$1,476,240**
- 1 ARC DECRA totalling **\$389,220**
- 1 NHMRC Career Development Fellow totalling **\$447,840**
- 3 NHMRC Early Career Fellows totalling **\$947,506**
- 4 NHMRC Research Fellows totalling **\$3,153,786**
- 1 Lymphatic Education and Research Network Postdoctoral Fellowship totalling **\$98,975**.

COMPETITIVE GRANT INCOME





Dr Irina Vetter receives her award from UQ Vice-Chancellor Prof Peter Høj and Australian Chief Scientist Prof Ian Chubb AC



Dr Mat Francois



Dr Maggie Hardy

2014 sources of competitive funding:

- ANZ Trustees
- Australia-India Strategic Research Fund
- Australian Cancer Research Foundation
- Australian Diabetes Society
- Australian Research Council
- Bill and Melinda Gates Foundation (US)
- Bioplatforms Australia Limited
- Cancer Council Queensland
- Cariplo Foundation (Italy)
- Diabetes Australia Research Trust
- Grain Research and Development Corporation
- Great Barrier Reef Foundation
- Human Frontier Science Program (France)
- James S McDonnell Foundation (US)
- Lymphatic Education & Research Network (US)
- National Breast Cancer Foundation
- National Health and Medical Research Council
- National Institutes of Health (US)
- Prostate Cancer Foundation of Australia
- Queensland Emory Development Alliance (Qld/US)
- Queensland Government
- The Kids' Cancer Project
- Wellcome Trust (UK)
- Wicking Trust and Mason Foundation
- Wound Management Innovation CRC



Professor David Craik receives the Ramaciotti Medal from Mr Andrew Thomas, General Manager, Philanthropy, Perpetual



Dr Kate Schroder

Awards

2014 IMB award highlights included:

Professor David Craik (pictured left) was awarded the 34th GlaxoSmithKline Award for Research Excellence and the Ramaciotti Medal for Excellence in Biomedical Research for investing more than two decades of his career translating nature's secrets into new drug solutions for pain and cancer.

Professor Paul Alewood received the 2014 Xiaoyu Hu Memorial Award by the Chinese Peptide Society in recognition for his exceptional contributions to basic research in peptide science.

Dr Irina Vetter was awarded a UQ Foundation Research Excellence Award and the 2014 Women in Technology Rising Star Award for her research into the cause of pain and new pain treatments.

Dr Kate Schroder (pictured left) was awarded the 2014 Milstein Young Investigator award for her outstanding contributions to basic immunology research at the annual International Cytokine and Interferon Society meeting.

Dr Sonia Henrique was awarded GO8 sponsorship to attend the 64th Lindau Nobel Laureate Meeting (Physiology or Medicine), Germany, 29 June-4 July 2014.

Dr Mat Francois was awarded the Larysa Pevny Inaugural Prize for Excellence in Sox Research for his research into the transcriptional regulation of blood and lymphatic vessel formation.

Dr Abishek Iyer, Dr Cassy Spiller, and Dr Andrew Walker were awarded UQ Postdoctoral Research Fellowships for their promising research.

Dr Maggie Hardy was awarded a UQ Postdoctoral Research Fellowship for Women to investigate the potential of proteins isolated from spider venoms to kill parasites such as fleas and ticks.



Research higher degree student Nikita Abraham

The background is a solid dark blue. It is decorated with numerous white line drawings of biological structures. These include various types of cells, some with multiple nuclei, some with prominent nucleoli, and others with complex internal organelles like mitochondria and Golgi apparatus. Some cells have spiky or irregular outer boundaries, while others are more rounded. The drawings are scattered across the page, with a higher concentration around the central text and along the bottom edge.

LEARNING

RESEARCH TRAINING



LEARNING

RESEARCH TRAINING

“Some of the things I like about IMB are its world-class facilities and cutting-edge approaches to some of the big issues out there, good travel support for students, and plenty of local opportunities to present your work.”

When it comes to an enriching student experience, it takes more than top researchers and world-class facilities to set the foundation for a meaningful career. While these are important factors – and definitely attributes students can expect to find at IMB – a supportive environment and career mentorship also play a vital role.

Development through mentorship

In 2014 IMB supported 114 active research higher degree (RHD) students and continued to support an additional 22 students who had submitted their theses and were awaiting conferral. We also hosted 17 undergrad students, 14 coursework masters students, 20 summer students and 34 occupational trainees during the year.

Students at IMB are encouraged to expand their skill sets and reach their scientific potential in a culture of research excellence.

IMB's Postgraduate Office provides students with a range of extra curricular activities and opportunities to accelerate career and personal development.

A number of optional workshops were offered to students in 2014 as part of IMB's Career Advantage Program, including workshops on biostatistics and oral communication and engagement.

RHD students were also invited and encouraged to participate in events organised by IMB's student association, SIMBA, and our IMB Early Career Researchers Committee. These events included a range of career and mentoring seminars, as well as events for social and professional networking and peer support.

Singing their praises

There were many opportunities to celebrate student successes at IMB during 2014.

Impressively, more than 80 per cent of our graduating honours students achieved a first-class degree for outstanding performance.

Numerous IMB students received travel awards during the year to attend various conferences around the world. Attending these conferences is incredibly valuable for our students as it gives them

an opportunity to present their research, learn from their peers and expand their own networks.

Some of our travel grant recipients include:

- **Kaiwen Chen** (Schroder group) won a travel award to attend the National Frontiers in Immunology Winter School in Osaka, Japan
- **Claudio Cortes** (Wicking group) won a travel award to attend the Keystone Symposium on Cilia, Development and Disease in California, USA
- **Angie Jarrad** (Cooper group) attended both the 2014 Medicinal Chemistry Gordon Research Conference and the Symposium in the USA
- **Soohyun Kwon** (Craik group) and Daniel Nielsen (Fairlie group) were recipients of the highly competitive Graduate School International Travel Awards (GSITA).

Four students represented IMB at the UQ inter-institute final of the Three-Minute Thesis (3MT) competition. PhD student Barbara Maier (Little group) went on to represent IMB at the UQ final, held at Customs House.

A number of students saw their work published in prestigious journals, for example Joanne Leerberg (Yap group) published her outcomes in *Current Biology*, and Kaiwen Chen (Schroder group) was first author on a manuscript published in *Cell Reports*.

Where are they now?

We celebrated with 33 of our RHD students who graduated during 2014. Many graduates secured research positions at leading organisations around the world, including Harvard Medical School in the USA and various universities in Germany, Vienna and Sweden.

Other graduates accepted exciting roles within the corporate sector. Dr Julie Klint (formally King group) is now a Research Associate at the drug discovery alliance and development partnership company, Evotec, based in Hamburg.

Dr Fabian Kurth (formally Martin group) accepted a position at Accenture, a global management, consulting and outsourcing services organisation. Fabian will join the life sciences strategy and product development arm of the company as a Strategy Consultant (Product).



CLAUDIO CORTES RODRIGUES
IMB research higher degree student
(Wicking group)





Research higher degree students

Hafiza Abdul Ghani
Nikita Abraham
Md. Shohidul Alam
Eduardo Albornoz Balmaceda
Rubbiya Ali
Juliana Ariffin
Sungmin Baek
Megha Bajaj
Sheila Barbero
Niraj Sanjayrao Bende
Guillaume Bernard
Sisi Bi
Damien Bierschenk
Lou Brillault
Irene Chassagnon
Kaiwen Chen
Wenhan Chen
Gamma Chi
Ivy Kim Ni Chiang
Natasha Chaudhary
Anupma Chaudhary
Signe Christensen
Thomas Clairfeuille
Nicholas Condon
Yingnan Cong
Claudio Cortes Rodriguez
Zhenling Cui
Kaustav Das Gupta
Jessica De Angelis
Kurt-Johan Deecke
Tram Anh Do
Charlotte Dsouza

Mriga Dutt
Ingrid Edwards
Sing Yan Er
Chun-Wei Feng
Jordan Gary Follett
Dejan Gagoski
Joel Goode
Daniela Grassini
Marwa Hussain Ali
Kapil Jain
Gisela Jakob
Angie Maree Jarrad
Prerna Jha
Pengxiang Ji
Husen Jia
Yuhong Jiang
Wooram Jung
Prashanth Jutty Ragan
Pamela Andrea Kairath Oliva
Pabasara Kalansuriya
Johan Kamal Hamidon
Sanjaya Kc
Emily Knauth
Marija Kojic
Keerthana Krishnan
Lalith Kummari
Soohyun Kwon
Christian Larney
Ho Yee Lau
Hyun Jae Lee
Xuan Liang
Ye-Wheen Lim

Chao Liu
Bruno Madio
Tunjung Mahatmanto
Barbara Maier
Uru Malik
Rosa Esther Martinez
Kathryn McClelland
Sarah Louise McClounan
Justin Mitchell
Osama Mohamed
Ambika Mosale Venkatesh
Murthy
Mehdi Moustaqil
Khursheid Nabi
Pratik Neupane
Daniel Nielsen
Ailis O'Carroll
Timothy Ryan O'Connor
Tae Gyu Oh
Paola Ojeda Ojeda
Rakesh Damodar Origanti
Jeroen Overman
Samuel Robert Perry
Wanida Phetsang
Miranda Pitt
Pritesh Prasad
Rashmi Priya
Xiaying Qi
Yu Ling Quek
Reyna Quezada Iniguez
Sassan Rahnama
Anjaneya Ravipati
Timothy Reeks

Clarissa Rios Rojas
Jessica Rowley
Darshani Rupasinghe Arachchilage
Manohar Salla
Zoe Victoria Schofield
Zhuo Shang
Haojing Shao
Maren Janina Steinbeck
Jasmin Straube
Megan Surawski
Atefeh Taherian Fard
Wei Xuan Teo
Vikas Tillu
Zewen Tuong
Darya Vanichkina
Jingjing Wan
Hongyang Wang
Krishantha Pradeep Wardamune Gedara
Kenneth Wee
Juliane Wolf
David Wood
Yeping Wu
Weijun Xu
Jennifer Yarnold
Jeremy Changyu Yeo
Yun Kit Yeoh
Kathleen Yin
Alina Zamoshnikova
Eugene Zhang
Chenxi Zhou
Rebekah Ziegman
Kerstin Christine Zoidl



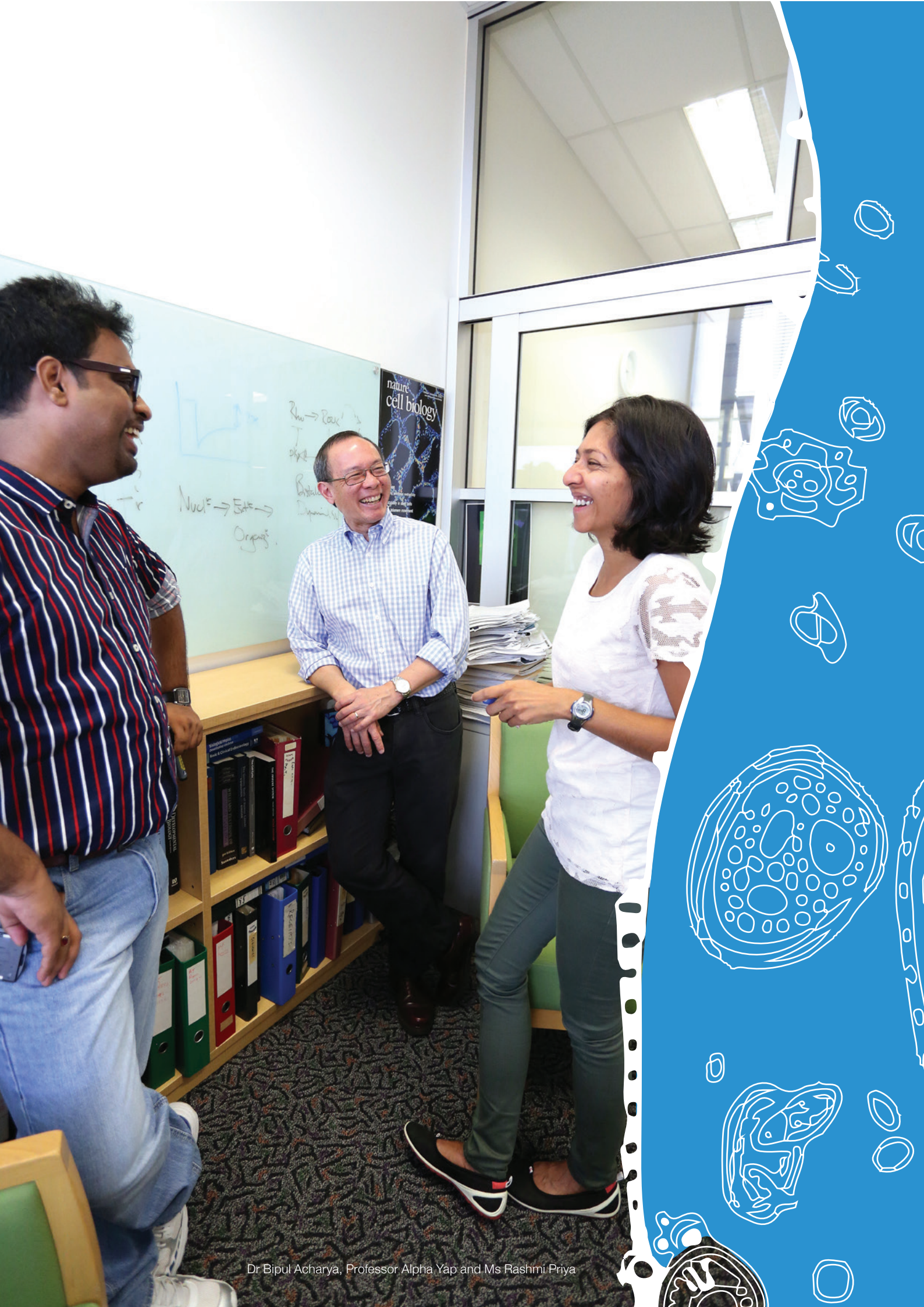
2014 research higher degree conferrals

NAME	SUPERVISOR	DEGREE	THESIS TITLE	GRADUATE POSITION
Walter Balansa	Professor Rob Capon	PhD	Discovery of novel, potent and selective glycine receptor modulators from southern Australian sponges	Lecturer at Nusa Utara Polytechnic, Indonesia
Melissa Brown	Professor Sean Grimmond	PhD	Functional characterisation of the cyclin dependent kinase-like 3 isoforms	Researcher, Leukaemia Research Group, Monash University, Australia
Tony Bui	Professor Ben Hankamer	PhD	Cryopreservation, culture recovery and glucose induced programmed cell death in chlorophyte microalgae	Hankamer group, IMB
Bodil Carstens	Dr Richard Clark/ Professor David Craik	PhD	Marine natural wonders and the beginning of their journey towards the pharmaceutical market	Pharmacist, Norway
Yash Chhabra	Professor Mike Waters	PhD	The growth hormone receptor mediated oncogenesis	Waters group, IMB
Shiao Chow	Professor David Fairlie	PhD	Towards serine protease Inhibitors	Researcher Department of Medicinal Chemistry, University of Uppsala, Sweden
Anne Conibear	Professor David Craik	PhD	Characterisation and applications of theta-defensins	Researcher, Institute of Biological Chemistry, University of Vienna, Austria
Baptiste Coxam	Dr Ben Hogan	PhD	Identification and characterisation of novel regulators of vascular development	Integrative Vascular Biology lab, Max Delbrück Center, Berlin, Germany
Daniel Croker	Professor Matt Cooper	PhD	Mapping the signalling pathways and interactions for the complement C5a receptors using novel methodologies	Cooper group, IMB
Wilko Duprez	Professor Jenny Martin	PhD	Design, synthesis and evaluation of peptides and peptidomimetics inhibiting the bacterial DsbA-DsbB interaction	Martin group, IMB
Alexander Foo	Professor Ben Hankamer	PhD	Development of novel nanovalves for liposomal drug delivery based on bacterial mechanosensitive channel of large conductance	Hankamer group, IMB
Marga Gual Soler	Professor Jenny Stow	PhD	The role of Rab23 in epithelial morphogenesis, polarity and lumen formation	American Association for the Advancement of Science (AAAS), Washington DC, USA, then Arizona State University, USA
Venkatanambi Kamalakkanna	Professor Rob Capon	PhD	Cane toad toxins: mystery revealed	Capon group, IMB
Joelle Kartopawiro	Dr Ben Hogan	PhD	Identification and characterisation of novel regulators of lymphatic vessel development	Wicking group, IMB
Fabian Kurth	Professor Jenny Martin	PhD	Structural and functional characterisation of bacterial TRX-fold proteins	Strategy and Management Consultant, Accenture, Germany
Vincent Lavergne	Professor Paul Alewood	PhD	Large-scale transcriptomic and proteomic data mining of conopeptides and cysteine-rich venom toxins	Alewood group, IMB



PhD student Fabian Kurth with Professor Jenny Martin

NAME	SUPERVISOR	DEGREE	THESIS TITLE	GRADUATE POSITION
Joanne Leerberg	Professor Alpha Yap	PhD	Analysing the mechanism and regulation of vinculin in cadherin adhesions	New mum
Natalya Leneva	Professor Rob Parton	PhD	Towards the development of a prokaryotic system for the <i>in vitro</i> study of caveola formation	Collins group, IMB
Ganqiang Liu	Professor John Mattick	PhD	Exploration of the human transcriptome and RNA interactions	Researcher, Neurogenome lab at Harvard Medical School/Brigham and Women's Hospital, USA
Khairul Adzfa Radzun	Professor Ben Hankamer	PhD	Developing an automated high-throughput microalgal nutrient screening system	Lecturer, Faculty of Applied Sciences, Universiti Teknologi MARA, Malaysia
Divya Ramnath	Associate Professor Matt Sweet	PhD	Role of IRF6 in epithelial cell-mediated host defence and inflammation	Sweet group, IMB
Alan Robertson	Professor Sean Grimmond	MPhil	A molecular portrait of pancreatic cancer	QIMR then Coin group, IMB
Silmara Rodrigues de Sousa	Professor Richard Lewis	PhD	Discovery and characterisation of novel analgesic neurotoxins, hCav2.2 channel inhibitors, from cone snail and spider venoms	Lewis group, IMB
Nur Intan Raihana Ruhaiyem	Professor Ben Hankamer	PhD	Multiple, object-oriented segmentation methods of mammalian cell tomograms	Lecturer, School Of Computer Sciences Universiti Sains Malaysia, Malaysia
Anne Sawyer	Professor Ben Hankamer	PhD	Regulation of light harvesting complex gene expression in <i>Chlamydomonas reinhardtii</i>	Researcher, Ruhr-Universität Bochum, Germany
Zi-Xing Vernon Seow	Professor David Fairlie	PhD	Properties of the C5a receptor on human macrophages	Safety Officer, NUS, Singapore
Nasad Shaikh	Professor Glenn King	PhD	Structural and mechanistic studies of a bacterial histidine kinase	Japan
Eivind Undheim	Professor Glenn King	PhD	Centipede venom evolution	King group, IMB
Elanor Wainwright	Professor Peter Koopman	PhD	The role of signalling pathways in urogenital ridge differentiation	London Research Institute (to become the Francis Crick Institute), UK
Joshua Wingerd	Professor Richard Lewis	PhD	Discovery and characterisation of Na _v modulatory venom peptides	Alchemia within Lewis group, IMB
Kai Xiang Selwin Wu	Professor Alpha Yap	PhD	Biomechanics of epithelial interactions: from multicellular cohesion to oncogenic transformation	Howard Hughes Medical Institute, Harvard Medical School, USA
Annika Yau	Professor David Fairlie	PhD	Novel agonists and antagonists for protease-activated receptor 2 and C3a receptor	Fairlie group, IMB
Peter Han-Chung Yee	Professor Brandon Wainwright	PhD	Targeting hedgehog signalling	



Dr Bipul Acharya, Professor Alpha Yap and Ms Rashmi Priya



ENGAGEMENT

RESEARCH COMMERCIALISATION | GLOBAL COLLABORATIONS | COMMUNITY ENGAGEMENT | SCIENTIFIC ENGAGEMENT



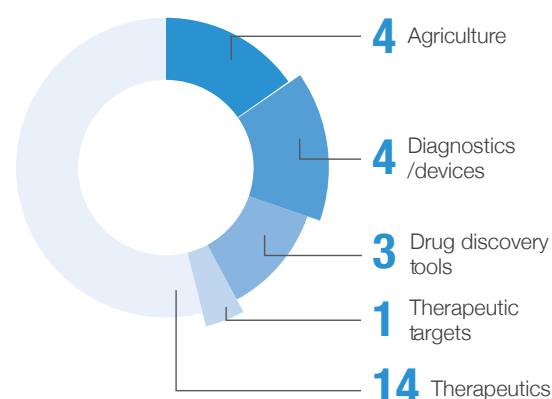
ENGAGEMENT

RESEARCH COMMERCIALISATION



PICTURED (LEFT TO RIGHT): IMB Research Partnerships Manager Dr Peter Wilson, and UniQuest's Dr Stephen Earl, Dr Robert McLachlan and Dr Mark Ashton

PATENT PORTFOLIO BY RESEARCH AREA



IMB works closely with The University of Queensland's commercialisation company UniQuest to translate important life sciences discoveries into benefits for industry and our community.

UniQuest is one of Australia's leading research commercialisation companies and specialises in global technology transfer.

In 2014 IMB continued its successful track record in the Australian Research Council's (ARC) Linkage grants scheme, which supports research and development projects between higher education researchers and industry.

In addition to managing 10 existing ARC Linkage grant partnerships, the institute secured two new collaborative agreements with Phylogica Pty Ltd and Mater Misericordiae Health Services. Significant progress was made on our Linkage project with Janssen Cilag (Australia) and Johnson & Johnson Innovation to identify peptides from spider venom as potential treatments for pain. This included collaborating with Johnson & Johnson Innovation's new Asia Pacific Innovation Center, which was launched in October 2014.

With UniQuest's support, the institute also secured new research agreements with key industry partners. This included partnering with US biotechnology company Organovo to produce 3D printed kidney tissue. Researchers hope 3D printing of fully functional kidney tissue would lead to better disease modelling and drug development.

Throughout the year, IMB managed an intellectual property (IP) portfolio of 26 patents including patents related to diagnostics, therapeutics and drug discovery tools. One of IMB's patent applications was granted in 2014 and two new provisional patents were filed, including technologies for an improved method for transforming human embryonic stem cells to kidney cells, and a quantum dots technology for improving the sensitivity of diagnostic assays.

During the past decade, IMB has proudly produced several spin-out companies and continues to maintain close relationships with many of these, including Protagonist Therapeutics, which has discovery operations at IMB, maintaining the biotech's access to IMB expertise and capabilities. The biotech is developing oral drugs for diseases whose current treatments must be injected, providing a safer, more effective, convenient and affordable choice for patients and the healthcare system.

IMB further strengthened its commercial networks, attending major industry events including BIO2014 in San Diego and AusBiotech, showcasing IMB technologies and commercialisation opportunities to potential industry partners. We also hosted visitors from several multinational companies, including AstraZeneca, Pfizer, Johnson & Johnson, NuFarm and Elanco.

IMB is committed to training its postgraduate students and early career researchers in how to work with industry to take their discoveries out of the lab and into the community. This is demonstrated by UniQuest's annual two-day commercialisation workshop. In 2014, 21 IMB researchers attended the workshop, where they received advice on identifying and protecting IP, through to the different funding options and routes available to commercialise IP and knowledge.

UniQuest will continue to work alongside IMB's research teams in the year ahead to pursue commercial opportunities in the areas of human therapeutics, including new treatments for inflammation, pain, metabolic disorders, infection and cancer; in agriculture, including insecticides and pesticides; and in biotechnology, including microalgae-based biofuels and production of high value materials.

A close-up portrait of a man with a beard and mustache, smiling. He is wearing a white lab coat. In the foreground, a large, hairy, brown spider is visible on a reflective surface.

“Significant progress was made on Professor Glenn King’s Linkage project with Janssen Cilag (Australia) and Johnson & Johnson Innovation to identify peptides from spider venom as potential treatments for pain.”

GLOBAL COLLABORATIONS



33
COLLABORATIONS
IN ASIA

Asia

Academic

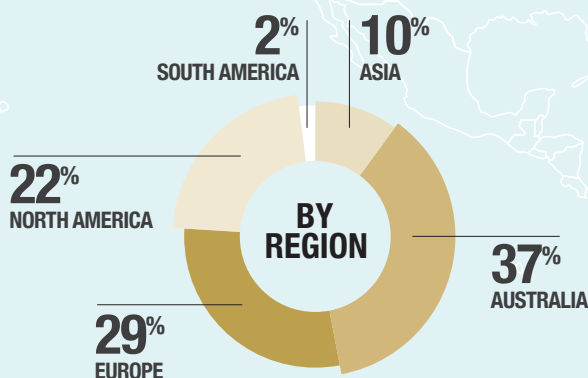
- Academia Sinica (Taiwan)
- China University of Geosciences (Beijing)
- Chulalongkorn University (Thailand)
- Guangdong Pharmaceutical University (China)
- Guangzhou Institutes of Biomedicine and Health, Chinese Academy of Sciences (China)
- Hainan University (China)
- Institute of Hydrobiology, Chinese Academy of Sciences (China)
- Institute of Microbiology, Chinese Academy of Sciences (China)
- Institute of Molecular and Cell Biology (Singapore)
- KAIST, University in Daejeon (South Korea)
- Kasetsart University (Thailand)
- Khon Kaen University (Thailand)
- King Abdullah University of Science and Technology (Saudi Arabia)
- Kyushu University (Japan)
- Kunming Institute of Zoology, Chinese Academy of Sciences (Beijing)
- Mechanobiology Institute of Singapore
- National University of Singapore
- Oxford University Clinical Research Unit (Vietnam)
- Peking University (Beijing)
- RIKEN, Hirosawa, Wako-shi, Saitama (Japan)
- Sinica (Taiwan)
- Sun Yat-sen University (China)
- Tata Institute for Fundamental Research (India)
- Thammasat University (Thailand)
- Tohoku University (Japan)
- Tsinghua University (China)
- The University of Hong Kong
- Weizmann Institute (Israel)
- Zhejiang A & F University (China)

Industry

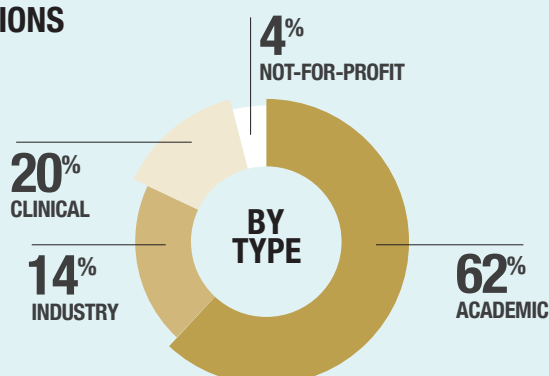
- Advanta (India)
- Life Technologies (Singapore)

Clinical

- National Centre for Biological Sciences (Bangalore)
- Nippon Medical School (Kawasaki)



GLOBAL COLLABORATIONS





COLLABORATIONS IN AUSTRALIA

“As a globally connected Institute, IMB has built a strong network of international collaborators. During 2014, IMB researchers worked with colleagues from 321 organisations – including universities, hospitals, industry and not-for-profit – to address some of the most complex challenges facing our community.”

Australia

Academic

- Australian National University (Canberra)
- Burnet Institute (Melbourne)
- Baker IDI Heart & Diabetes Institute (St Kilda)
- Deakin University (Melbourne)
- European Molecular Biology Laboratory (EMBL) Australia (Melbourne)
- Florey Institute of Neuroscience & Mental Health (Melbourne)
- Garvan Institute of Medical Research (Sydney)
- Griffith University, Eskitis Institute (Brisbane)
- Ingham Institute for Applied Medical Research (Sydney)
- James Cook University (Townsville)
- La Trobe University (Melbourne)
- Liggins Institute (Auckland)
- Macquarie University (North Ryde)
- Monash Institute of Pharmaceutical Sciences (Melbourne)
- Monash University (Melbourne)
- Peter Doherty Institute for Infection and Immunity (Melbourne)
- Prince Henry's Institute (Melbourne)
- QFAB Bioinformatics (Brisbane)
- Queensland University of Technology (Brisbane)
- RMIT University (Melbourne)
- South Australian Health & Medical Research Institute (Adelaide)
- Telethon Institute for Child Health Research (Perth)
- The University of Adelaide
- The University of Sydney
- The University of Western Australia (Perth)
- The University of Auckland
- University of Melbourne
- University of Newcastle
- University of New South Wales (Sydney)
- University of Southern Queensland
- University of Technology (Sydney)
- UQ Australian Centre for Ecogenomics (Brisbane)
- UQ Australian Infectious Diseases Centre (Brisbane)
- UQ Australian Institute for Bioengineering and Nanotechnology (Brisbane)
- UQ Centre for Advanced Imaging (Brisbane)
- UQ Centre for Integrated Preclinical Drug Development (Brisbane)
- UQ Centre for Integrative Legume Research (Brisbane)
- UQ Centre for Microscopy and Microanalysis (Brisbane)

- UQ Global Change Institute (Brisbane)
- UQ Protein Expression Facility (Brisbane)
- UQ Queensland Brain Institute (Brisbane)
- UQ School of Agriculture and Food Science (Brisbane)
- UQ School of Biological Sciences (Brisbane)
- UQ School of Biomedical Sciences (Brisbane)
- UQ School of Chemistry and Molecular Biosciences (Brisbane)
- UQ School of Mathematics and Physics (Brisbane)
- UQ School of Medicine (Brisbane)
- UQ School of Pharmacy (Brisbane)
- Walter and Eliza Hall Institute (Melbourne)

Industry

- Alchemia (Brisbane)
- Alere Australia (Brisbane)
- Amgrow (Sydney)
- Antisense Therapeutics (Toorak)
- BioAustralis (Smithfield)
- Bioplatforms Australia (Sydney)
- Bioproton (Brisbane)
- Cement Australia (Brisbane)
- Dairy Innovation Australia Ltd (Melbourne)
- Eli Lilly Australia (Sydney)
- Growth Agriculture (Wee Waa)
- Innovate Ag (Wee Waa)
- IOR Energy (Brisbane)
- Janssen (Sydney)
- KBR (Brisbane)
- Microbial Screening Technologies (Sydney)
- Mimetica (Melbourne)
- Muradel (Adelaide)
- National Institute of Water and Atmospheric Research (New Zealand)
- North Queensland and Pacific Biodiesel (Cairns)
- Phylogica (Perth)
- Protagonist Pty Ltd (Brisbane)
- Shimadzu Scientific Instruments (Sydney)
- Virgin Australia (Brisbane)

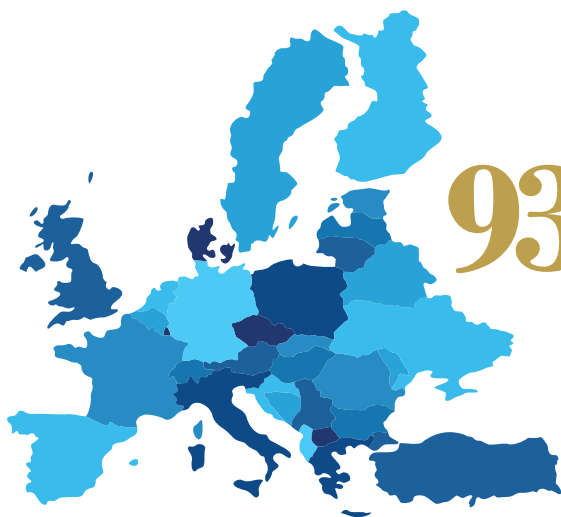
Clinical

- Brien Holden Vision Institute (Sydney)
- Chronic Kidney Disease in Queensland (Brisbane)
- Fremantle Hospital (Perth)
- Genetic Health Queensland (Brisbane)

- Greenslopes Hospital (Brisbane)
- John Hunter Hospital (Newcastle)
- Liverpool Hospital (Sydney)
- Mater Children's Hospital (Brisbane)
- Mater Hospital (Brisbane)
- Mater Medical Research Institute (Brisbane)
- Mater Pathology (Brisbane)
- Menzies School of Health Research (Darwin)
- Monash Medical Centre (Melbourne)
- Murdoch Childrens Research Institute (Melbourne)
- Pathology Queensland (Brisbane)
- Peter MacCallum Cancer Centre (Melbourne)
- Princess Alexandra Hospital (Brisbane)
- Princess Margaret Hospital for Children (Perth)
- QIMR Berghofer Medical Research Institute (Brisbane)
- Royal Brisbane and Women's Hospital (Brisbane)
- Royal Children's Hospital (Melbourne)
- Royal Melbourne Hospital
- SA Pathology (Adelaide)
- St George Hospital (Kogarah)
- St Vincent's Institute (Fitzroy)
- The Children's Hospital at Westmead (Sydney)
- The Prince Charles Hospital (Brisbane)
- Translational Research Institute (Brisbane)
- UQ Centre for Clinical Research (Brisbane)
- UQ Diamantina Institute (Brisbane)
- UQ Mater Medical Research Institute (Brisbane)
- Victorian Clinical Genetics Services (Parkville)
- Westmead Hospital (Sydney)

Not-for-profit

- Australian Institute of Sport (Canberra)
- Australian Red Cross Blood Service (Brisbane)
- Australian Synchrotron (Melbourne)
- Cancer Council Queensland (Brisbane)
- CSIRO Division of Animal, Food and Health Sciences
- Great Barrier Reef Foundation (Brisbane)
- Great Barrier Reef Marine Park Authority (Townsville)
- Kidney Health Australia (Melbourne)
- Mission Massimo Foundation (Melbourne)
- National Breast Cancer Foundation (Sydney)
- National Computational Infrastructure (Canberra)
- The Kids' Cancer Project (Sydney)



93

COLLABORATIONS IN EUROPE

Europe

Academic

- Albert Ludwigs University of Freiburg (Germany)
- Basel Biozentrum (Switzerland)
- Bielefeld University (Germany)
- Bioscientia Center for Human Genetics (Germany)
- Cambridge University (UK)
- Cancer Research UK Cambridge Institute (UK)
- Centro Nacional de Biotechnología (CNB)/CSIC (Madrid, Spain)
- Curie Institute (Paris, France)
- DamStem, University of Copenhagen (Denmark)
- Defence Science and Technology Laboratory (Wiltshire, UK)
- Denmark University of Technology
- Department of Bacterial Pathogenesis and Cellular Responses, iRTSV/CEA-Grenoble (France)
- European Molecular Biology Laboratory (EMBL)
- European Bioinformatics Institute (EMBL-EBI) (Hinxton, UK)
- Friedrich-Alexander-University Erlangen-Nuremberg (Erlangen, Germany)
- Ghent University (Belgium)
- Hubrecht Institute for Developmental Biology and Stem Cell Research (The Netherlands)
- Institut Pasteur (Paris, France)
- Institute of Evolutionary Biology (Barcelona, Spain)
- Karlsruhe Institute of Technology (Germany)
- Liverpool School of Tropical Medicine (UK)
- Martin Luther University of Halle-Wittenberg (Germany)
- Max-Delbrueck Center for Molecular Medicine (Germany)
- Max Planck Institute for Molecular Biomedicine (Münster, Germany)
- Max Planck Institute for Infection Biology (Berlin, Germany)
- Max Planck Institute of Molecular Cell Biology and Genetics (Dresden, Germany)
- National Institute for Medical Research (UK)
- Technische Universität Dresden (Germany)
- Technische Universität München (Germany)
- The National Center for Scientific Research (France)
- Trinity College (Dublin, Ireland)
- UCL Cancer Institute (UK)
- University College London (UK)
- University of Barcelona (Spain)
- University of Bath (UK)
- University of Bristol (UK)
- University of Basel (Switzerland)
- University of Brescia (Italy)
- University of Copenhagen (Denmark)
- University of Debrecen (Hungary)
- University of East Anglia (UK)
- University of Edinburgh (Scotland)
- University of Essex (UK)
- University of Freiburg Medical Center (Germany)
- University of Glasgow (Scotland)
- University of Gothenburg (Sweden)
- University of Hamburg (Germany)
- University of Heidelberg (Germany)
- University of Helsinki (Finland)
- University of Iceland
- University of Lausanne (Switzerland)
- University of Leeds (UK)
- University of Leuven (Belgium)
- University of Manchester (UK)
- University of Milan (Italy)
- University of Montpellier (France)
- University of Montpellier 2 (France)
- University of Münster (Germany)
- University of Oslo (Norway)
- University of Oxford (UK)
- University of Paris V (France)
- University of Saarland (Germany)
- University of Sheffield (UK)
- University of Stockholm (Sweden)
- University of Ulm (Germany)
- University of Warwick (UK)
- University of Western Brittany (France)
- University Paris Descartes
- Uppsala University (Sweden)
- Versalius Institute for Biology (Belgium)
- VU University (Amsterdam, The Netherlands)

Industry

- AstraZeneca (Sweden)
- Benchmark Holding (Scotland)
- Boehringer Ingelheim (Germany)
- Neste Oil (Finland)
- Pfizer Neusentis, Cambridge (UK)
- Siemens (Germany)
- Zealand Pharma (Denmark)

Clinical

- Cochin Institute (INSERM) (Paris, France)
- Cordeliers research center - Université Pierre et Marie Curie (Paris, France)
- Fundación Investigación Hospital, Clínico-INCLIVA (Valencia, Spain)
- Great Ormond Street Hospital (London, UK)
- Guy's Hospital (London, UK)
- Institute of Child Health (London)
- Leiden University Medical Centre (Leiden, The Netherlands)
- Ludwig-Maximilian University (Münich, Germany)
- Mario Negri Institute for Pharmacological Research (Bergamo, Italy)
- Medical University of Graz (Austria)
- Medical University of Vienna (Austria)
- St George's University Hospital (London, UK)
- The John Innes Centre (Norwich, UK)

Not-for-profit

- Cariplo Foundation (Italy)
- Food and Environment Research Agency (Sand Hutton, UK)
- Wellcome Trust (London, UK)



70

COLLABORATIONS IN NORTH AMERICA

North America

Academic

- Arizona State University (USA)
- Boston University (USA)
- Cardiovascular Research Institute at University of California (San Francisco, USA)
- Dalhousie University (Canada)
- Emory University (Atlanta, USA)
- Florida Atlantic University (Florida, USA)
- Florida State University (Florida, USA)
- Harvard University (Massachusetts, USA)
- Johns Hopkins University (Baltimore, USA)
- Laval University (Quebec, Canada)
- Lewis & Clark College (Oregon, USA)
- NOAA National Centers for Coastal Science (Beaufort, USA)
- Oak Ridge National Laboratory, US Department of Energy (Tennessee, USA)
- Rutgers University (New Jersey, USA)
- Stanford University (California, USA)
- Texas Tech University (USA)
- University of Arizona (USA)
- University of Calgary (Canada)
- University of California, Berkeley (USA)
- University of California, Irvine (USA)
- University of California, Los Angeles (USA)
- University of California, San Diego (USA)
- University of California, San Francisco (USA)
- University of California, Santa Barbara (USA)
- University of Chicago (USA)
- University of Colorado Boulder (USA)
- University of Houston
- University of Maryland (USA)
- University of Miami (USA)
- University of Michigan (USA)
- University of New Mexico Health Sciences Center (USA)
- University of Ohio
- University of Prince Edward Island (Canada)
- University of Southern California (Los Angeles, USA)
- University of Southern California (San Diego, USA)
- University of Tennessee (Knoxville, USA)
- University of Texas Health Science Centre (Houston, USA)
- University of Texas Medical School (Houston, USA)
- University of Utah (Salt Lake City, USA)
- University of Washington (USA)
- University of Wisconsin (USA)
- Yale University (Connecticut, USA)

Industry

- Alere (San Diego, USA)
- Cardeas (Seattle, USA)
- Elanco (Indianapolis, USA)
- Illumina (California)
- Ironwood Pharmaceuticals (Massachusetts)
- Johnson & Johnson Pharmaceutical Research and Development (San Diego, USA)
- Organovo (San Diego, USA)
- Pfizer (Groton and Boston, USA)
- Progenra (Philadelphia, USA)
- Protagonist Therapeutics Inc. (California, USA)
- SpringStar (Washington State, USA)
- Trigemina (Moraga, USA)
- Versatis Inc. (California, USA)

Clinical

- Children's National Medical Centre (Washington, USA)
- Cincinnati Children's Hospital (Ohio, USA)
- Fred Hutchinson Cancer Research Center (Seattle, USA)
- Institute of Metabolic Disease, Baylor College of Medicine (Texas, USA)
- Keenan Research Centre for Biomedical Science (Toronto, Canada)
- Lucile Packard Children's Hospital at Stanford University (California, USA)
- Massachusetts General Hospital (Boston, USA)
- Mayo Clinic Children's Center (Minnesota, USA)
- Medical University of South Carolina (Charleston, USA)
- Montreal Children's Hospital McGill University Health Centre (Canada)
- Moser Centre for Leukodystrophies, Kennedy Krieger Institute (Baltimore, USA)
- Mount Siani Hospital (New York, USA)
- Primary Children's Hospital (Salt Lake City, USA)
- Seattle Children's Hospital (USA)
- The Hospital for Sick Children (Toronto, Canada)

Not-for-profit

- James S McDonnell Foundation (US)
- Lymphatic Education & Research Network (US)

South America

Academic

- Instituto Butantan (Brazil)
- Universidad Católica de Brasília (Brazil)
- Universidad de la Frontera (Chile)
- Universidade Federal do Rio de Janeiro (Brazil)
- Universidad Sao Paulo (Brazil)
- Universidade Federal do Rio Grande (Brazil)

Clinical

- Centro de Pesquisas René Rachou (Belo Horizonte, Brazil)



7

COLLABORATIONS IN SOUTH AMERICA

ENGAGEMENT

COMMUNITY ENGAGEMENT



IMB Director Professor
Brandon Wainwright



Guests attending our first Life Sciences@UQ
networking forum



IMB donor Dr Rosamond Siemon with Siemon Scholar Barbara Maier at
the UQ 3MT finals

We strive to share our world-class science with the community because it's their support that makes our discoveries possible.

During 2014, we welcomed 2414 external visitors to the institute, including students, donors, scientific collaborators, industry partners, media, politicians, and community supporters. Our visitors joined us for a range of events, including laboratory tours, public seminars, scientific conferences, and student information sessions.

We took our research to the community by participating in events such as the Queensland Government's Science in Parliament session, UQ's Research Week activities, and attending primary and high schools to talk about science with students. We also hosted a 'Reconnect with UQ' event for UQ alumni in London to update them on our world-class research and its impact.

We hosted our first two Life Sciences@UQ networking forums to generate more collaboration between researchers, and between research and industry. The aim of this forum is to network a globally competitive life sciences sector for Queensland and we were pleased to see more than 400 people attend the forums.

In July, we hosted a National Pain Week public seminar in partnership with Chronic Pain Australia, which was attended by more than 180 people. The event launched our new Centre for Pain Research.

In August, IMB helped organise the Queensland launch of National Science Week at the Brisbane Convention and Exhibition Centre, which brought scientists and community members from across the state together to celebrate all things science. During National Science Week our researchers also participated in a range of related activities, including Dr Brett Collins and Professor Jenny Martin who delivered public presentations at the Queensland Museum on the science of crystallography.

In September, third-year PhD student Barbara Maier from Professor Melissa Little's group, whose studies have been supported by a scholarship from Dr Rosamond Siemon, was one of eight finalists that contended in UQ's Three Minute Thesis (3MT) finals held at Customs House. 3MT is a competition that challenges PhD students to communicate their research and its impact to the public in a dynamic, engaging and interesting way. Barbara's challenge was to discuss her work to investigate how we can use stem cells from patients with genetic forms of kidney disease to help grow and repair damaged kidney tissue.

We were fortunate to receive the continued support of our loyal donors in 2014. Notably, we acknowledge The Simon Axelsen Memorial Fund for its support of Professor David Craik's research to develop a new pain relief drug from cone snail venom. We also acknowledge the support of Cure Brain Cancer Foundation, which awarded IMB and the Queensland Brain Institute a \$1.5 million

grant to recruit and appoint the inaugural John Trivett Senior Research Fellow in brain cancer. This community-funded fellowship will make an invaluable contribution to our statewide brain cancer research efforts and we thank the Cure Brain Cancer Foundation and benefactor Mrs Beverley Trivett for their ongoing support.

Science communication remained a priority for the institute, with many of our researchers regularly engaging with media to share their stories. Importantly, we grew the value of our mainstream media presence, securing more than 1100 media mentions valued at \$5.6 million across print, broadcast and online media. Some of the major outlets to publish our research in detail included ABC TV's Catalyst and News 24 programs; Channel 10's Scope and Totally Wild programs; ABC local radio, Radio National, AM and PM programs; the news broadcasts of channels 7, 9, 10 and ABC; and an impressive list of daily and weekly newspapers and online publications — including The Conversation — from across the country and the world.

Our students and early-career researchers (ECRs) honed their science communication and engagement skills through their involvement in our Science Ambassador program. As always, our volunteer ambassadors played a vital role in showcasing our research to the public at a range of events, and inspiring future students to choose a career in science.



THANK YOU TO OUR 2014 SCIENCE AMBASSADORS

Nikita Abraham (Lewis group)
Megha Bajaj (Cooper group)
Nilesh Bokil (Sweet group)
Andrew Brooks (Waters group)
Tania Brooks (Waters group)
Thomas Clairfeuille (Collins group)
Claudio Cortes Rodriguez
 (Wicking group)
Baptiste Coxam (Hogan group)
Mark Crowe (QFAB Bioinformatics)
Jessica De Angelis (Smith group)
Evelyne Deplazes (King group)

Mathilde Desselle
 (QFAB Bioinformatics)
Anh Do (Fairlie group)
Wilko Duprez (Martin group)
Guillermo Gomez (Yap group)
Daniela Grassini (Smith group)
Angie Jarrad (Cooper group)
Prashanth Jutty Rajan (Lewis group)
Julie Klint (King group)
Marija Kojic (Wainwright group)
Tunjung Mahatmanto (Craik group)

Uru Malik (Craik group)
Kathryn McClelland (Koopman group)
Katia Nones (Grimmond group)
Melanie Oey (Hankamer group)
Rashmi Priya (Yap group)
Kelly Quek (Grimmond group)
Anne Sawyer (Hankamer group)
Christina Schroeder (Craik group)
Atefeh Taharian Fard (Ragan group)
Darya Vanichkina (Taft group)
Juliane Wolf (Hankamer group)

ENGAGEMENT

SCIENTIFIC ENGAGEMENT

IMB's researchers play an active role within Australia's scientific and medical research communities here and abroad. Their contributions keep the Institute at the forefront of scientific advancement, sharing our progress on the global stage and welcoming new opportunities to collaborate with expert colleagues around the world.

The following highlights represent a small sample of the many valuable contributions made by our research staff during the past 12 months.

Appointment highlights

IMB researchers were appointed and re-appointed to the editorial boards of a number of leading journals including, *ChemBioChem*, *Chemical Biology and Drug Design*, *Developmental Cell*, *Molecular Biology of the Cell*, *Journal of Cell Science*, *Journal of Biological Chemistry*, *Journal of Cell Biology*, *Molecular Biology of the Cell*, *Biology Direct*, *BMC Evolutionary Biology*, *Evolutionary Bioinformatics*, *Acta Crystallography Section D*, *Toxicon*, *Toxin Reviews*, *Toxins*, *Molecular and Cellular Therapies*, and *Cell Regeneration Journal*.

Professor Brandon Wainwright was elected patron of the Queensland Acoustic Neuroma Association, as a board member of Life Sciences Queensland, and as chair of the Queensland Institute of Health network.

Professor David Craik served on the National Health and Medical Research Council (NHMRC) Assigners Academy, which is responsible for providing advice to the NHMRC on the peer review process. He also served on the International Scientific Committee for the 10th International Society on Toxinology's Asia Pacific Conference on Animal, Plant and Microbial Toxins.

Associate Professor Matt Sweet was an NHMRC Grant Review Panel member for 2014 and was appointed chair of UQ's Animal Ethics Committee.

Professor Mark Ragan served as director (alternate) of the Australian Genome Research Facility. He also served on the UK Medical Research Council's College of Experts as part of its Initiative in Medical Bioinformatics. Professor Ragan was chair of the Scientific Advisory Committee for the Philippine Genome Centre Program in Bioinformatics, served on the Scientific Advisory Committee for the University of Auckland Bioinformatics Institute, and was on the executive committee of the Association of Asian Societies of Bioinformatics.

Professor Jenny Martin was elected to UQ's Academic Board; appointed to the UQ Professorial Promotions Committee; and served on the UQ Career Progression for Women Steering Committee. She also served on the NHMRC Women in Health Sciences Committee and the Australian Academy of Science's Science in Australia Gender Equity Steering (SAGE) Committee. She was elected vice-president of the Asian Crystallography Association and appointed to the NHMRC Career Development Fellowship peer review panel. She was also the program chair for the SCANZ Crystal29 conference held in Lamington National Park in April.

Associate Professor Rick Sturm served on the Society for Melanoma Research Steering Committee (2012-2015) and was a member of the World Congress of Melanoma 2017 National Steering Committee.

Professor Glenn King chaired the Nomenclature Committee, International Society for Toxinology.

Professor Paul Alewood chaired the 5th Venoms to Drugs meeting held in Kingscliff in October.

Professor Alpha Yap was elected vice-chair and invited speaker for the 2014 Gordon Research Conference on Signalling by Adhesion Receptors.

Dr Brett Collins chaired the Australian Synchrotron MX Programme Advisory Committee (2014-2015) and continued as a contributing member of the Faculty 1000 (2013-present).



Professor Jenny Martin



RESEARCH AUSTRALIA



Professor David Craik addresses guests at the 2014 Research Australia awards dinner in Sydney
CREDIT: Andrew Messer

Presentations and event highlights

IMB hosted around 40 internationally renowned speakers during the year as part of its Friday seminar series.

IMB senior researchers delivered a total of 161 lectures to UQ undergraduate students.

Professor David Craik gave plenary lectures at the Gordon Research Conference Chemistry and Biology of Peptides in California in February; the Symposium on the Future of Peptides as a Third Class of Medicines in Singapore in February; the Advances in Treating Neuropathic Pain, 27th American Chemical Society National convention in Dallas in March; the 10th IST Asia Pacific Conference on Animal, Plant and Microbial Toxins held in China in June; the XXIX Annual Meeting of Federation of Brazilian Societies for Experimental Biology in August; and the EuroPeptides conference held in Berlin, Germany in November.

Professor Mark Ragan gave keynote lectures at the International Conference on Computational Science held in Townsville; the Reef Future Genomics 2020 Consortium held at the King Abdullah University of Science and Technology (KAUST), Saudi Arabia; the eResearch Australasia conference held in Brisbane; and the inaugural Philippine Genome Centre Scientific Symposium held in Manila.

Professor Alpha Yap was the keynote speaker at the World Congress of Biomechanics held in Boston in July.

Associate Professor Rick Sturm presented the Seiji Memorial Lecture at the International Pigment Cell Conference in Singapore in September.

Professor Jenny Martin was the keynote speaker at the International Union of Crystallography Congress in Montreal in August.

Professor Glenn King was the plenary speaker at the Taiwan Magnetic Resonance Society Annual Meeting, National Tsing Hua University, Taiwan.

Associate Professor Matt Sweet was an invited speaker at the International Society for Zinc Biology conference held in California, USA in September. He was also a member of the organising committee for the Lorne Infection and Immunity conference and the International Cytokine and Interferon Society annual conference.

Dr Nick Hamilton, Lanna Wong and **Professor Mark Ragan** organised the 11th annual Winter School in Mathematical and Computational Biology. Held at IMB from 7-11 July, the event attracted a total of 227 participants from 10 countries.

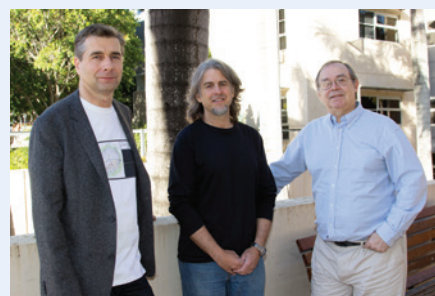
The IMB Centre for Inflammation and Disease Research hosted a public research symposium co-organised by **Associate Professor Matt Sweet** and **Dr Kate Schroder**.

Dr Brett Collins was a keynote speaker and member of the organising committee of the Australian Synchrotron User Meeting held in Melbourne in November.

IMB hosted the Brisbane Genome Editing Symposium in September organised by **Dr Tom Hall**.

Dr Mat Francois co-organised the Brisbane Cell and Developmental Biology Meeting held in September.

Professor Peter Koopman delivered the 2014 IMB/QBI Toshiya Yamada Memorial Lecture in March.



Dr Nick Hamilton (left) and Professor Mark Ragan with Winter School keynote speaker Professor John Quackenbush



Professor Peter Koopman delivers the 2014 Toshiya Yamada Memorial Lecture





STRUCTURE AND GOVERNANCE

ORGANISATIONAL STRUCTURE | EXECUTIVE COMMITTEE | ADVISORY BOARD | OUR PEOPLE
JOINT APPOINTMENTS AND AFFILIATES

STRUCTURE AND GOVERNANCE

ORGANISATIONAL STRUCTURE





STRUCTURE AND GOVERNANCE

EXECUTIVE COMMITTEE



Professor Mark Ragan

Head, Genomics and Computational Biology (until March)
BA (Hons) (Chicago), PhD (Dalhousie)

Professor Ragan was founding Head of IMB's Genomics and Computational Biology division, which this year became a part of the institute's new Genomics of Development and Disease division. In this role, he led a team of five group leaders and their respective research teams, as well as managing his own laboratory.

Professor Ragan completed his undergraduate studies in biochemistry at the University of Chicago and postgraduate studies in biology at Dalhousie University in Canada. Before joining IMB, Professor Ragan worked for more than 20 years as a research scientist for National Research Council Canada, and for six years as a Fellow of the Canadian Institute for Advanced Research's Program in Evolutionary Biology.

Professor Ragan has published more than 200 peer-reviewed papers, is Director of the Australian Research Council (ARC) Centre of Excellence in Bioinformatics and a cofounder of QFAB Bioinformatics.



Professor Peter Koopman

Head, Molecular Genetics and Development (until March)
BA BSc (Hons) PhD (Melbourne)

Professor Koopman was Head of IMB's Molecular Genetics and Development division from 2006 until this year, when it became a part of the institute's new Genomics of Development and Disease division. In this role, he led a team of eight group leaders and their research teams, as well as leading his own laboratory.

Professor Koopman received a Bachelor of Arts (Fine Arts and Dutch), a Bachelor of Science with Honours (Genetics), and a PhD (Paediatrics) at The University of Melbourne. After this time, he spent six years as a postdoctoral researcher and staff scientist with the Medical Research Council in London, where he was part of the team that discovered the Y-chromosome sex-determining gene SRY. He joined UQ's Centre for Molecular and Cellular Biology (now IMB) in 1992.

Professor Koopman has published more than 250 papers, is a member of five scientific journal editorial boards, and is a Fellow and Council Member of the Australian Academy of Science.



Professor Melissa Little

Head, Genomics of Development and Disease (from March)
BSc (Hons) PhD (Brisbane) GAICD

Professor Little was Head of IMB's newly formed Genomics of Development and Disease division. In this role, she led a team of 13 group leaders and their research teams, and also led her own laboratory.

Professor Little received a Bachelor of Science with Honours (Physiology) and a PhD (Biochemistry) at The University of Queensland. She completed her postdoctoral studies as a Royal Society Fellow at the Medical Research Council Human Genetics Unit in the UK. She joined UQ's Centre for Molecular and Cellular Biology (now IMB) in 1992.

Professor Little graduated from the Australian Institute of Company Directors in 2004, and in 2007-2008, she was Chief Scientific Officer of the Australian Stem Cell Centre. She has been a member of the Australian Government's Wills (1997-1998) and McKeon (2011-2013) Strategic Reviews of Health and Medical Research. She is also a member of the NHMRC Research Committee.

Professor Little has published more than 130 manuscripts, holds an NHMRC Senior Principal Research Fellowship and is a member of four scientific journal editorial boards. She is also a Chief Investigator at Stem Cells Australia, the EU FP7 STELLAR research consortium, and a Human Frontiers Science Program on kidney morphogenesis.



Professor David Fairlie

**Head, Chemistry and Structural Biology
BSc (Hons) (Adelaide), PhD (NSW)**

Professor Fairlie is Head of IMB's Chemistry and Structural Biology division. He is one of a team of eleven IMB group leaders and four division affiliates working on chemistry, biochemistry and pharmacology.

Professor Fairlie conducted undergraduate studies at the University of Adelaide, postgraduate studies at the Australian National University and the University of New South Wales, and postdoctoral studies at Stanford University and the University of Toronto. He has held ARC Federation and ARC Professorial Fellowships, Chief Scientific Officer and Scientific Director company roles, and has collaborated with some of the world's largest pharmaceutical and biotechnology companies.

Professor Fairlie is a National Health and Medical Research Council (NHMRC) Senior Principal Research Fellow.



Professor Jennifer L. Stow

**Deputy Director (Research)
BSc (Hons) PhD (Monash)**

Professor Stow is IMB's Deputy Director (Research). In this role she manages the scientific and competitive funding performance of the Institute, as well as IMB's postgraduate program.

Professor Stow completed her undergraduate and postgraduate studies at Monash University in Melbourne, after which she undertook postdoctoral training at Yale University's School of Medicine as a Fogarty International Fellow. She was soon appointed as Assistant Professor in the Renal Unit at Massachusetts General Hospital, where she established an independent research group in cell biology. She returned to Australia in 1994 as a Wellcome Trust Senior International Fellow to join UQ's Centre for Molecular and Cellular Biology (now IMB).

Professor Stow is a National Health and Medical Research Council (NHMRC) Principal Research Fellow.



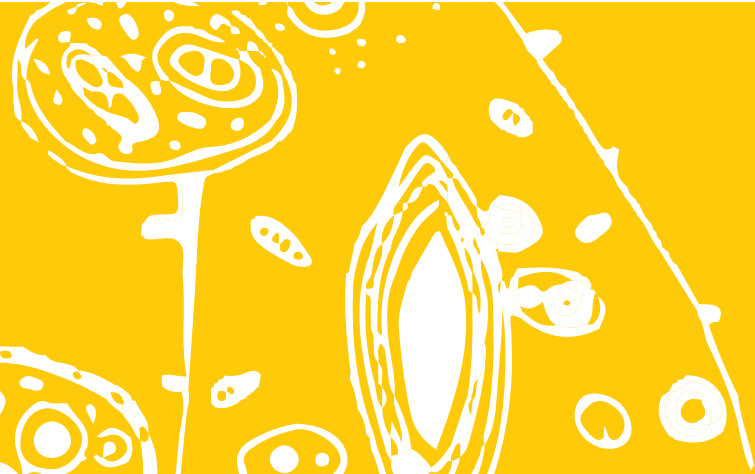
Professor Brandon Wainwright

**Director
BSc (Hons) PhD (Adelaide)**

Professor Wainwright is Director of IMB. As Director, Professor Wainwright is responsible for advancing the institute's research initiatives, strengthening the institute's global connections and leading IMB's scientists in their work to improve quality of life for all.

Professor Wainwright completed his undergraduate and postgraduate studies at The University of Adelaide, after which he secured a postdoctoral fellowship at St Mary's Hospital at Imperial College London (ICL). During his six years at ICL he worked on the first human genome project and also became a Medical Research Council Senior Research Fellow. He returned to Australia in 1990 to join UQ's Centre for Molecular and Cellular Biology (now IMB).

Professor Wainwright leads his own IMB laboratory and serves on the board of Life Sciences Queensland, The Australian Genome Research Facility, Queensland Institutes of Health, and a number of national and international scientific review committees.



Professor Alpha Yap

**Head, Cell Biology and Molecular Medicine
MBBS PhD (Queensland), FRACP**

Professor Yap is Head of IMB's Cell Biology and Molecular Medicine division (formerly Molecular Cell Biology). In this role, he leads a team of eight group leaders and their respective research teams, as well as managing his own laboratory.

Professor Yap trained as a physician and endocrinologist at The University of Queensland and the Royal Brisbane Hospital, after which he completed a PhD in epithelial physiology at UQ. Before joining IMB, Professor Yap was a CJ Martin Fellow at Memorial Sloan-Kettering Cancer Center (New York) and a Wellcome Trust International Senior Medical Research Fellow (UQ).

Professor Yap is a National Health and Medical Research Council (NHMRC) Principal Research Fellow. He is an Associate Editor for *Molecular Biology of the Cell* and a member of nine other editorial boards, including *Current Biology* and *Developmental Cell*.



Dr Ian Taylor

**Deputy Director (Operations)
BSc (Hons) (Strathclyde), PhD (London),
MBA (Queensland)**

Dr Taylor is IMB's founding Deputy Director (Operations). In this role he is responsible for the administration and operations of the institute, including management of institute finances, infrastructure, safety, and support services and staff.

Dr Taylor completed his undergraduate studies in biochemistry and postgraduate studies in radiation biology in the UK, working as a research officer for several years. In the late 1970s, he relocated to Australia to take up a position as a Research Fellow at the Ludwig Institute for Cancer Research and a lecturer at the University of Sydney, before becoming the Queensland Institute of Medical Research's first Scientific Manager in Brisbane in 1984.

Dr Taylor has more than a decade of experience in research and 30 years of experience in scientific management and laboratory design and construction.



Dr Mark Ashton

**Senior Director, Commercial Engagement (Health), UniQuest
BSc (Hons) PhD (Bath)**

Dr Ashton is UniQuest's Senior Director, Commercial Engagement (Health), where he is responsible for commercialising the University's, including IMB's, healthcare-related research expertise and intellectual property.

Dr Ashton completed his undergraduate studies in chemistry, postgraduate studies in medicinal chemistry, and postdoctoral studies in the discovery of new calcium channel antagonists at the University of Bath in the UK.

Before joining IMB, Dr Ashton was Executive Vice President (Business Development) of the European-based biotech company Evotec, where he led a team responsible for the global commercial and marketing activities with the world's leading pharmaceutical and biotechnology companies. Prior to this he was the President of the Drug Discovery operations division of Evotec, responsible for some 200 scientists.

Dr Ashton has worked within the biotech and pharmaceutical industry for 20 years and currently serves as a director of two Australian biotech companies, Vaxxas Pty Ltd and Dimerix Bioscience Pty Ltd. He is also a board observer for Spinifex Inc.

Dr Ashton has worked within the biotech and pharmaceutical industry for almost 20 years and currently serves as a director of three Australian biotech companies, Vaxxas Pty Ltd, Helmedix Pty Ltd and Dimerix Bioscience.



Maureen O'Shea

**Director of Advancement
BEc PGC Social Impact (UNSW)**

Ms O'Shea was appointed IMB's Director of Advancement in August 2014, and is responsible for managing the institute's philanthropic grants and community engagement.

Prior to joining IMB, Ms O'Shea was Development Manager for UNSW's Faculty of Medicine where she was responsible for significant philanthropic medical research funds to deliver positive outcomes for patients and to solve global health challenges. In this role Ms O'Shea focused on neurosciences, women's and children's health, and public health, particularly global responses to HIV.

She has extensive prior experience in entrepreneurial, consulting and marketing roles in IT and ecommerce. Ms O'Shea now combines her business experience and passion for social impact to drive philanthropic investment in life science breakthroughs, which will significantly benefit our health and environment.



STRUCTURE AND GOVERNANCE

ADVISORY BOARD



IMB ADVISORY BOARD (LEFT TO RIGHT): Prof John Funder AC, Prof Max Lu, Prof Stephen Walker, Dr Cherrell Hirst AO (Chair), Mr Bob Christiansen, Prof Brandon Wainwright (Absent: Dr Jane Wilson)

“I felt honoured to assume the role of chair of the newly constituted advisory board in June 2014. My fellow board members and I are proud and pleased to be involved with an institute of the calibre of IMB which has in a relatively short time become Queensland's leading, and one of Australia best, life sciences research institutes.”

Chair's message

The advisory board is enthusiastic about working with an organisation such as IMB because of its acknowledged global reputation based on its world-class discovery science, its world-class scientists and their teams, its promising cohort of postgraduates, its steadily increasing publication rate in major science journals, and its substantial global collaborations, including partnerships with three out of the five top pharmaceutical companies in the world.

In particular, the board looked forward to working with IMB's director and executive, as well as with UQ, to assist the strategic planning for the next important stage of the institute's development. Like any successful organisation, IMB's 'business' is being honed constantly in order to adapt to future opportunities and challenges.

This process is more important than ever as the research funding and investment environment is changing significantly and competition is increasing. But new opportunities are there for the grasping

and available to us through expanded relationships with research collaborators, industry partners, philanthropic supporters, friends and all levels of government.

The board recognises the excellence of IMB's research and will work with the director to maintain its outstanding level of performance. However, it believes that IMB's continued success will be enhanced by achieving more translational and commercial outcomes, which have the potential to ultimately benefit patients and the community. The board endorses the creation of IMB's four new research centres and three breakthrough programs and sees them as an important step in achieving these goals.

I know I speak for the whole advisory board when I say we look forward to working with Professor Brandon Wainwright and IMB's executive and staff to help sustain and expand the institute's world-class track record into the future.

Dr Cherrell Hirst AO
Chair, IMB Advisory Board

Mr Bob Christiansen

**BEcon (Qld) Dip Infm Proc (Qld),
Dip Fin Services (AFMA)**

Bob is the founding managing director of Southern Cross Venture Partners, one of Australia's largest technology venture capital firms. He is also a director of several early and later-stage technology companies in Australia and the US. He has been a member of the former Queensland Government's Science and Innovation Advisory Council and its predecessor The Smart State Council, and is an advisory board member of the UQ-owned technology incubator, iLab.

He spent over 20 years in the US technology sector where he was a founder of two start-up companies. Prior to returning to Australia he spent time as Chief Technology Officer for the Advisor Services group of Fidelity Investments in Boston.

Previously, Bob was a general partner of venture capital firm Allen & Buckridge. He brings over 40 years of experience in entrepreneurship and the international technology sector, with an emphasis on commercialisation and financing, business management and operations, and system design and development.

Professor John W Funder

**AC, MD PhD (Melbourne), FRACP, FRCP,
DMed Sci (Hons) (Sydney) DMed Sci
(Hons) (Melbourne), LLD (Hons) (Monash)**

John is executive chair of Obesity Australia, professor at Monash University's Department of Medicine, and a senior fellow in cardiovascular endocrinology at MIMR-PHI Institute of Medical Research in Melbourne.

John has more than 40 years of experience working in medical research and has significant leadership experience in the sector, having served as director of the Baker Institute from 1990 to 2001, director of research strategy at Southern Health (now Monash Health) from 2008 to 2011, and president of the Australian Society for Medical Research and the Endocrine Society of Australia.

In 2014 John was awarded the International Society of Hypertension's Robert Tigerstedt Lifetime Achievement Award. He has also received the Endocrine Society's Robert H. Williams Award for Distinguished Leadership (2013), Research Australia's Leadership and Innovation Award (2010), and the American Heart Association's prestigious Novartis Award (2008). During his career he has published more than 500 scientific papers and has been a member of many editorial boards.

Dr Cherrell Hirst (Chair)

**AO, FTSE, MBBS (Queensland), BEdSt
(Queensland) DUniv (Hon) (QUT, GU,
SCU), FAICD**

During the past decade, Cherrell has played a significant role in Queensland's growing biotechnology sector. From 2007-14 she served as CEO of QIC BioVentures where she was a director of several investee companies. During this time she also served on several national and state government advisory boards. Cherrell was chancellor at QUT from 1994 to 2004 and chair of the Brisbane Girls Grammar School Board of Trustees from 1996 to 2006.

Cherrell is a qualified medical practitioner, gaining a national reputation in the field of breast cancer screening and diagnosis as director of the Wesley Breast Clinic. Cherrell has been awarded three honorary doctorates, an Australian Government Centenary Medal (2003), and the title of Officer of the Order of Australia (AO) (1998). She is also a former Queenslander of the Year (1995).

Cherrell is currently Chair of ImpediMed Ltd and a director of Medibank Ltd, Tissue Therapies Ltd, Gold Coast Health and Hospital Service, Verva Ltd and Hatchtech Pty Ltd. She has previously served on the boards of the Avant Group and Suncorp Ltd, as well as various not-for-profit entities.

Professor Max Lu

**BE, ME (Northeastern, China), PhD
(Queensland), FAA, FTSE, FICHEM**

Max commenced as provost and senior vice-president of The University of Queensland in March 2014 and was formerly deputy vice-chancellor (research). He was also the founding director of the ARC Centre of Excellence for Functional Nanomaterials from 2003 to 2009.

Max has served on numerous government committees and advisory groups including those under the Prime Minister's Science, Engineering and Innovation Council and ARC College of Experts. He is the past chair of the Institution of Chemical Engineers (ICHEME) Australia board, and former director of the Australian Academy of Technological Sciences and Engineering board. He is also an elected fellow of the Australian Academy of Science, and a fellow of IChemE and the Australian Academy of Technological Sciences and Engineering.

Max has received numerous prestigious awards including the China International Science and Technology Award, Chinese Academy of Sciences International Cooperation Award, Orica Award, RK Murphy Medal, Le Fevre Prize, ExxonMobil Award, and the Chemeca Medal.

Professor Stephen Walker

BSc (Hons) (Sydney), PhD (Tasmania)

Stephen is executive dean of The University of Queensland's Faculty of Science, where he is responsible for the leadership and governance of one of the largest science groupings in Australia, with approximately 1200 (equivalent full-time) staff, and about 8500 (equivalent full-time) students.

Previously, Stephen was executive dean at UQ's Faculty of Engineering, Physical Sciences and Architecture. Prior to UQ, he spent five years at the Australian Research Council (ARC) in Canberra after a number of years as a senior scientist at CSIRO.

Stephen has a BSc (Hons) from The University of Sydney, and a PhD from The University of Tasmania. He has worked in a number of fields such as atmospheric pollution, remote sensing, coastal oceanography and water quality, and medical research (cardiology). He has extensive experience in collaborative research, in conjunction with government agencies, utilities, and private industry.

Dr Jane Wilson

**MBBS (Queensland), MBA (Harvard),
FAICD**

Jane is deputy chancellor of The University of Queensland, a director of Sonic Healthcare Ltd, finance director of The Winston Churchill Memorial Trust, and a director of the General Sir John Monash Foundation. She is also a member of the Prime Minister's Business Advisory Council and a member of the Queensland Government's Arts Investment Advisory Board.

Jane has a background in finance, banking and medicine, with an MBA from Harvard Business School and a medical degree from UQ. Her previous directorships include inaugural chair of Horticulture Australia, chair of IMBcom Ltd, and director of Universal Biosensors Ltd, Energex Ltd, Sun Retail Ltd, WorkCover Qld, and other small biotechnology companies. She has also served on several Queensland Government advisory boards.

Jane was the Queensland president and director of the Australian Institute of Company Directors (AICD) from 2002 to 2004, and was named in the inaugural 2012 AFR/Westpac Top 100 Women Awards in the board/management category.

STRUCTURE AND GOVERNANCE

OUR PEOPLE



Martin group



Craik group

Chemistry and Structural Biology

IMB's Chemistry and Structural Biology division conducts pure, strategic and applied research in organic and medicinal chemistry, structural biology, biochemistry, pharmacology, virology, bacteriology, and biotechnology.

Researchers within the division have expertise throughout the drug discovery pipeline and work together with academic and industry partners around the world to make important contributions towards understanding and treating a range of human diseases and conditions.

Research staff

Alewood group: Paul Alewood (Group Leader), Andreas Brust, Zoltan Dekan, Jean Jin, Vincent Lavergne, Jingjing Wan

Capon group: Rob Capon (Group Leader), Lea Indjein, Zeinab Khalil, Angela Salim, Sean Xiao

Cooper group: Mark Blaskovich, Mark Butler, Matthew Cooper (Group Leader), Daniel Croker, David Edwards, Alysha Elliott, Alejandra Gallardo-Godoy, Reena Halai, Karl Hansford, Johnny Huang, Angela Kavanagh, Fredrik Lindahl, Sreeman Mamidyala, Namfon Pantarat, Ruby Pelingon, Jan Pinder, Soumya Ramu, Andrea Ranzoni, Avril Robertson, Daniel Watterson, Zyta Ziora, Johannes Zuegg

Craik group: Angeline Chan, Stephanie Chaousis, Olivier Cheneval, David Craik (Group Leader), Thomas Durek, Edward Gilding, Peta Harvey, Crystal Huang, Mark Jackson, Quentin Kaas, Annie Kan, Aaron Poth, Tina Schroeder, Joakim Swedberg, Sonia Troeira Henriques, Phillip Walsh, Conan Wang

Fairlie group: Aline Dantas De Araujo, Prabhakar Bachu, Sheila Barbero, Shiao Chow, David Fairlie (Division Head and Group Leader), Maria Greenup, Tim Hill, Huy Hoang, Abishek Iyer, Woan Mei Kok, James Lim, Ligong Liu, Rink-Jan Lohman, Jeffrey Mak, Fabien Plisson, Robert Reid, Jacky Suen, Annika Yau

Hankamer group: Ben Hankamer (Group Leader), Michael Landsberg, Melanie Oey, Ian Ross, Rosalba Rothnagel, Evan Stephens, Juliane Wolf

King group: Yanni Chin, Ben Cristofori-Armstrong, Evelynne Deplazes, Maggie Hardy, Volker Herzig, Glenn King (Group Leader), Linlin Ma, Vanessa Morris, Sandy Pineda Gonzalez, Lachlan Rash, Natalie Saez, Sebastian Senff, Jennifer Smith, Eivind Undheim, Andrew Walker

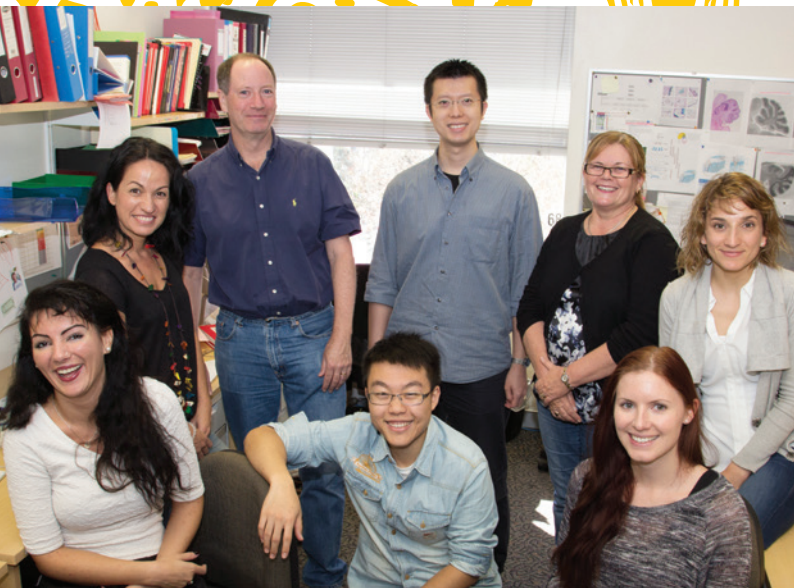
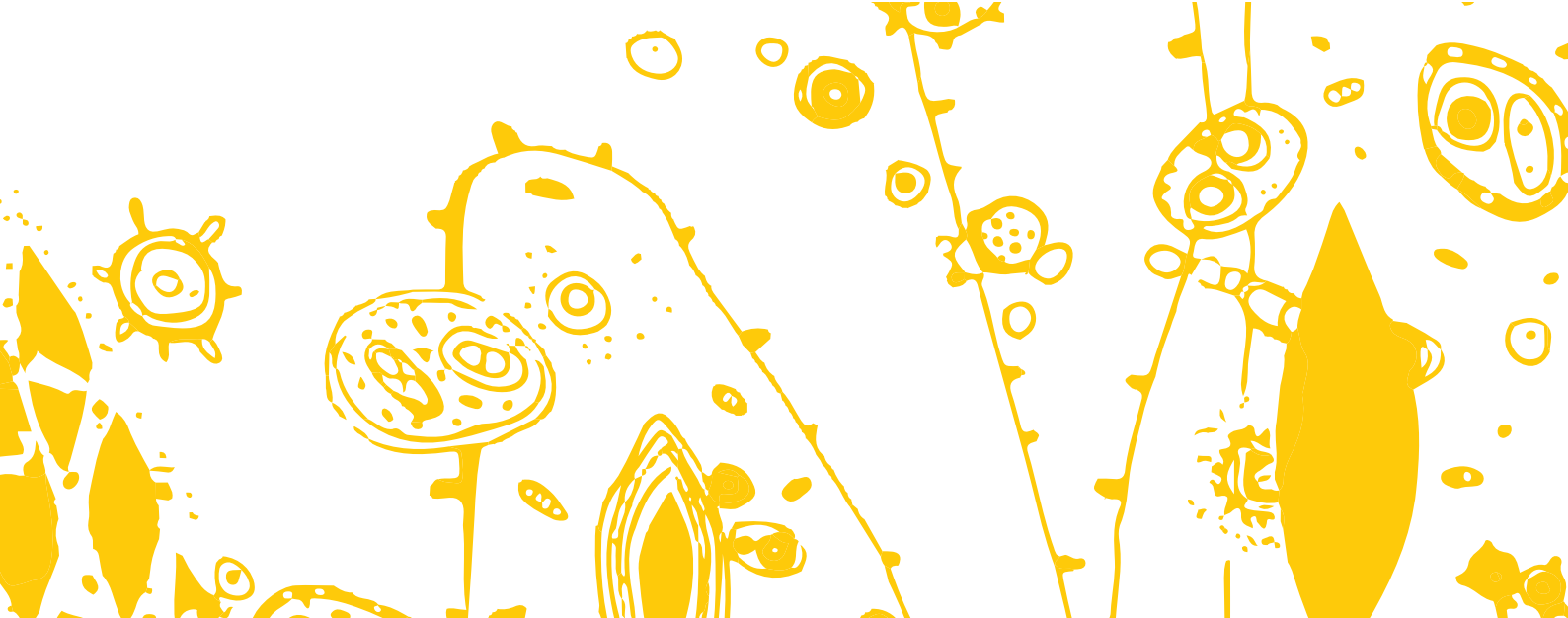
Lewis group: Asa Andersson, Fernanda Caldas Cardoso, Andrew Deuis, Richard Lewis (Group Leader), Hoshyar Mohialdeen, Thea Monks, Lotten Ragnarsson-McGrath, Silmara Rodrigues De Sousa, Anuradha Siddhialu Wickrama Hewage, Josh Wingerd

Martin group: Prabhakar Bachu, Karl Byriel, Hassanul Choudhury, Wilko Duprez, Shu-Hong Hu, David Jacques, Russell Jarrott, Gordon King, Fabian Kurth, Jenny Martin (Group Leader) Roisin McMahon, Patricia Walden

Smythe group: Gregory Bourne, Christina Kulis, Jaimee McMahon, Mark Smythe (Group Leader), Jenny Zhang

Vetter group: Irina Vetter (Group Leader)*

**Other group members employed through other UQ schools.*



Wainwright group



Little group

Genomics of Development and Disease

IMB's Genomics of Development and Disease division generates important insights into gene structure, function, regulation and interaction; clues to the causes of genetic diseases, including cancer; and new molecular and genomic approaches to better understand and help diagnose these diseases.

Scientists within this division have the capacity to not only link a novel genetic mutation with a disease state, but also to begin to investigate how this disease state might be treated on an individual level and at a broader population level.

Drawing on their expertise in molecular genetics, developmental biology, stem cell biology, bioinformatics, computational biology, mathematics, statistics, and computer science, our researchers are able to apply common skillsets and approaches to a broad range of biological conditions.

Research staff

Bailey group: Tim Bailey (Group Leader), James Johnson

Coin group: Gregory Baillie, Minh Cao, Lachlan Coin (Group Leader), Tania Duarte, Devika Ganesamoorthy, Alan Robertson, Huihui Zhang

Francois group: Frank Fontaine, Emmanuelle Frampton, Mathias Francois (Group Leader), Cathy Pichol-Thievend, Renae Skoczylas

Grimmond group: Tim Bruxner, Sean Grimmond (Group Leader), Shiv Hiriyur Nagaraj

Hamilton group: Nick Hamilton (Group Leader), Timothy Lamberton, James Lefevre

Hogan group: Neil Bower, Kylie Georgas, Ben Hogan (Interim Division Head and Group Leader), Kaska Koltowska, Anne Lagendijk, Scott Paterson

Koopman group: Josephine Bowles, Tara Davidson, Jessica Ineson, Peter Koopman (Group Leader), Ee Ng, Alex Quinn, Cassy Spiller, Liang Zhao

Little group: Han Chiu, Pei Er, Joan Li, Melissa Little (Group Leader), Norseha Mohamed Suhaimi, Jessica Vanslambrouch

Ragan group: Alison Anderson, Cheong Xin Chan, Liam Fearnley, Gavin Graham, Lien Le, Webber Liao, Michael Nuhn, Mark Ragan (Interim Division Head and Group Leader), Sriganesh Srihari, Alex Varlakov, Lanna Wong

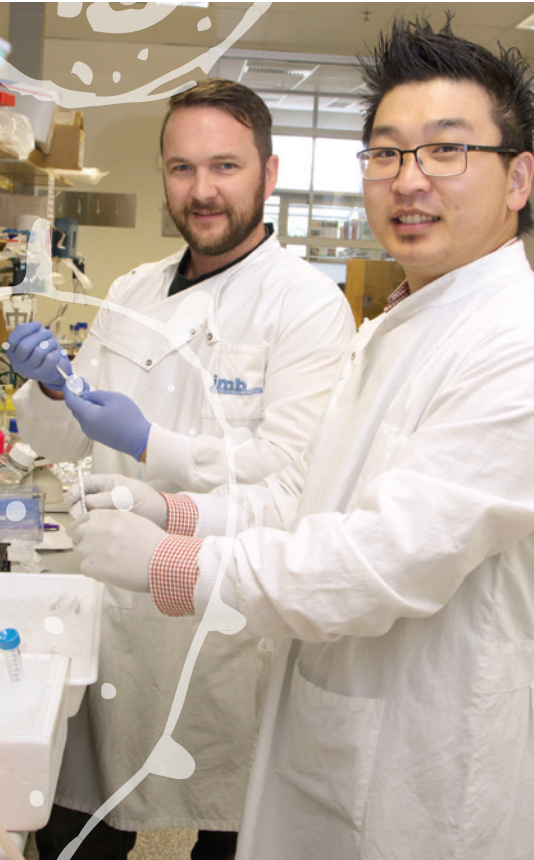
Simons/Taft group: Joanna Crawford, Cas Simons (IMB Fellow), Douglas Stetner, Ryan Taft (Group Leader)

Smith group: Kelly Smith (Group Leader), Alisha Tromp

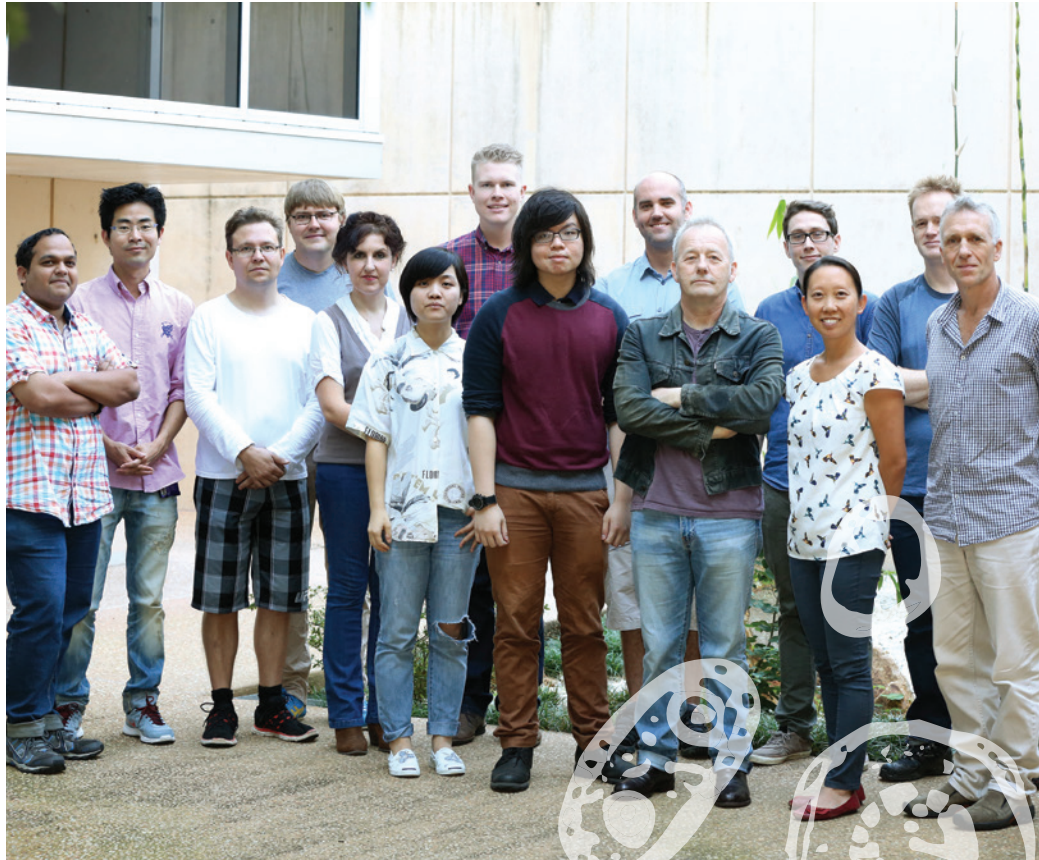
Sturm group: Stephen Ainger, Darren Smit, Rick Sturm (Group Leader)

Wainwright group: Christelle Adolphe, Julie Conway, Laura Genovesi, Mei-Fong Ho, Alex Koon, Brandon Wainwright (Group Leader)

Wicking group: Ashley Cooper, Joelle Kartopawiro, Maria Rondon, Carol Wicking (Group Leader)



Dr Adam Wall and Dr Lin Luo from Stow group



Parton group

Cell Biology and Molecular Medicine

IMB's Cell Biology and Molecular Medicine division seeks to understand the molecular workings of the cell, the building blocks of our bodies. This is vital for a full understanding of how our bodies function, and serves as a foundation to investigate the cellular basis of disease.

Scientists are tackling key issues in cell biology, investigating the mechanisms responsible for how cells develop, function, move and interact with one another.

Research staff

Alexandrov group: Kirill Alexandrov (Group Leader), Zhong Guo, Wayne Johnston, Sergey Mureev, Marinna Nilsson, Viktor Stein

Collins group: Brett Collins (Group Leader), Oleksiy Kovtun, Natalya Leneva, Suzanne Norwood

Muscat group: Rebecca Fitzsimmons, George Muscat (Group Leader), Michael Pearen, Emma Sierecki, Mary Wang

Parton group: Nicholas Ariotti, Michele Bastiani, Akshay Bhumkar, Yann Gambin, Nichole Giles, Charles Ferguson, Tom Hall, Harriet Lo, Nick Martel, Kerrie-Ann McMahon, Susan Nixon, Robert Parton (Group Leader), James Rae

Schroder group: Jelena Bezbradica Mirkovic, Rebecca Coll, Caroline Holley, Maria Monteleone, Kate Schroder (Group Leader), Amanda Stanley

Stow group: Darren Brown, Tatiana Khromykh, Lin Luo, Jennifer Stow (Group Leader), Juliana Venturato, Adam Wall, Fiona Wylie

Sweet group: Nilesh Bokil, Daniel Hohenhaus, Rohan Kapetanovic, Kolja Schaale, Melanie Shakespear, Matt Sweet (Group Leader), Kathryn Tunny

Teasdale group: Andrea Bugarcic, Markus Kerr, Genevieve Kinna, Jamie Stevens, Rohan Teasdale (Group Leader), Zhe Yang

Waters group: Yash Chhabra, Caroline Nelson, Michael Waters (Group Leader)

Yap group: Bipul Acharya, Srikanth Budnar, Benjamin Caldwell, Guillermo Gomez, Joyce Meiring, Magdalene Michael, Maedeh Naghibosadat, Rashmi Priya, Suzie Verma, Alpha Yap (Group Leader)

Support staff

Administration support: Sue Allen, Gail Howard, Patricia Howarth, Katrina Garner-Moore, Lucinda Essery, Nicholas Jones

Finance: Robyn Craik, Angela Gardner (Manager), Sharmila Mangalamkat, Rosanna Quinlivan, Sanjay Sundarlal, Hyo Park/Louise Hendriks (maternity leave)

Grants Manager: Michelle Foley

Infrastructure support: Chris Barnett (Manager), Jill Bradley, Karl Byriel, Angelika Christ, Christine Fraser, John Griffin, Jacky Hung, Alun Jones, Ian Lane, Miki Miyagi (maternity leave) Dominic Hunter, Darren Paul, James Springfield

Workshop and maintenance: Gary Carlross, Jason Hurst, Leigh Rose, John Srnka, Mick Thwaite (Manager), Mark Ziza

Stores: Bob Allen, Barry Pitt (Manager)

Central sterilising facility: Marie Campbell, Sol Koppmann, Dawn Walsh (Manager)

Safety manager: Paul Lovelock

Human resources: Natasha Crocker (0.8), Liza Leibbrandt, Felicity Ray (Manager), Kathleen Hilsdon

Information technology: Derek Benson, Damien Beverley, Matthew Bryant, Christian De Marco, Brett Dunsmore (Manager), Calvin Evans, Chris Hunt, Nelson Marques, Scott Martin, Lance Rathbone, Yves St-Onge, Jimmy Wu

Advancement: Maureen O'Shea (Director)

Communications: Bronwyn Adams (maternity leave), Gemma Ward (Acting Manager), Julia Archbold

Postgraduate office: Amanda Carozzi, Olga Chaourova, Cody Mudgway

Commercialisation: Mark Ashton* (Manager), Peter Wilson

**Employed by UniQuest*

QFAB Bioinformatics: Jeremy Barker (CEO), Pierre-Alain Chaumeil, Xin-Yi Chua, Mark Crowe, Mathilde Desselle, Alain-Dominique Gorse, Anne Kunert, Roxane Legaie, Jeremy Parsons, Nicholas Rhodes, Emma Cowie

STRUCTURE AND GOVERNANCE

JOINT APPOINTMENTS AND AFFILIATES

Joint appointments and affiliates foster research collaborations between IMB and other institutes and schools at The University of Queensland and around the world. They are actively involved in sharing resources and facilities, supervising students and supporting IMB initiatives.

UQ joint appointment

Professor Philip Hugenholtz
School of Chemistry and Molecular Biosciences

Associate Professor Richard Sturm
School of Medicine

Honorary and adjunct appointments

Dr Prabhakar Bachu

Dr Peter Beattie
Former Premier of Queensland

Professor Frances Brodsky
University of California, San Francisco

Dr Nathan Cowieson
Australian Synchrotron

Dr Norelle Daly
James Cook University

Dr Melissa Davis
The University of Melbourne

Professor John Funder
Prince Henry's Institute

Professor Frank Gannon
QIMR Berghofer Medical Research Institute

Professor Wanjin Hong
Institute of Molecular and Cell Biology

Professor David Hume
The Roslin Institute

Professor David Julius
University of California, San Francisco

Dr Premkumar Lakshmanane
Professor Yingrui Li
BGI Tech Solutions

Professor Sangkot Marzuki AM
Eijkman Institute for Molecular Biology

Professor John Mattick AO
Garvan Institute

Dr Wim Meutermans
Audeo Oncology

Dr Grant Montgomery
QIMR Berghofer Medical Research Institute

Dr Josh Mylne
University of Western Australia

Professor Nicos Nicola
Walter and Eliza Hall Institute of Medical Research

Dr Susan Northfield

Dr John Pearson
QIMR Berghofer Medical Research Institute

Mr Ken Roberts
Former Managing Director of Wellcome
Australasia Limited

Professor Peter Turnbull
QFAB Bioinformatics

Dr Nicola Waddell
QIMR Berghofer Medical Research Institute

Dr Andrew Whitten
Australian Nuclear Science and Technology
Organisation

Dr Dagmar Wilhelm
Monash University

Professor Marino Zerial
Max Planck Institute of Molecular Cell Biology
and Genetics

UQ affiliates

Dr Antje Blumenthal
Diamantina Institute

Dr Mikael Boden
School of Chemistry and Molecular Biosciences

Dr Andrew Brooks
Diamantina Institute

Professor Matthew Brown
Diamantina Institute

Dr Richard Clark
School of Biomedical Sciences

Professor Ian Frazer
Translational Research Institute

Associate Professor Bryan Fry
School of Biological Sciences

Professor Elizabeth Gillam
School of Chemistry and Molecular Biosciences

Associate Professor Stuart Kellie
School of Chemistry and Molecular Biosciences

Professor Bostjan Kobe
School of Chemistry and Molecular Biosciences

Dr Gary Leong
Mater Children's Hospital (Qld)

Professor Alan Mark
School of Chemistry and Molecular Biosciences

Dr Mehdi Mobli
Centre for Advanced Imaging

Dr Zoltan Neufeld
School of Mathematics and Physics

Dr Johan Rosengren
School of Biomedical Sciences

Associate Professor Joseph Rothnagel
School of Chemistry and Molecular Biosciences

Professor Maree Smith
Tetra Q

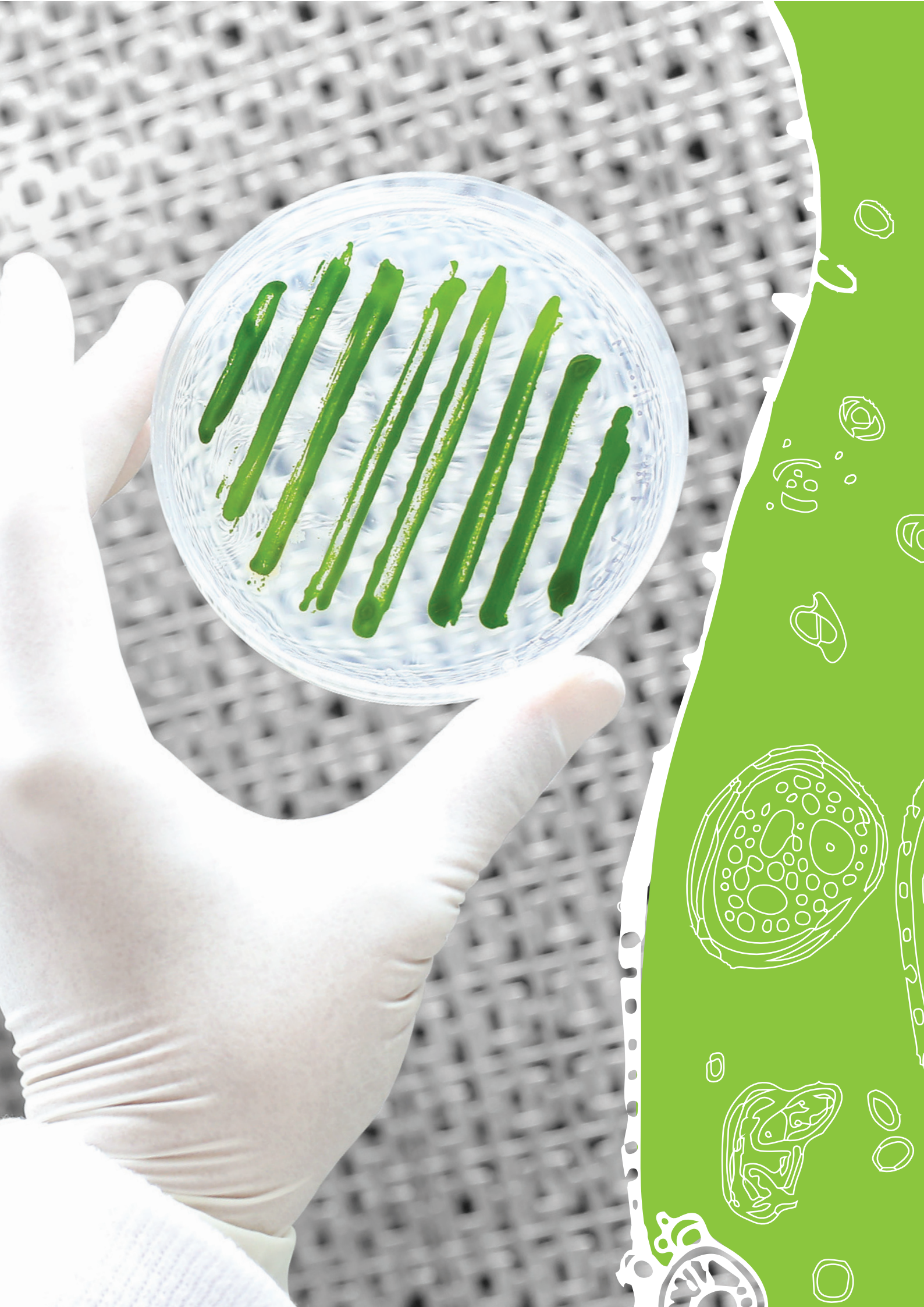
Dr Kate Stacey
School of Chemistry and Molecular Biosciences

Associate Professor Peter Thorn
School of Biomedical Sciences

Professor Istvan Toth
School of Chemistry and Molecular Biosciences

Associate Professor Christine Wells
Australian Institute for Bioengineering and
Nanotechnology

Professor Paul Young
School of Chemistry and Molecular Biosciences





SUPPORTING INFORMATION

FINANCIAL STATEMENT | RESEARCH GRANTS LIST | RESEARCH SUPPORT FACILITIES
OCCUPATIONAL HEALTH AND SAFETY | SCIENTIFIC PUBLICATIONS | DISCOVERIES FOR LIFE

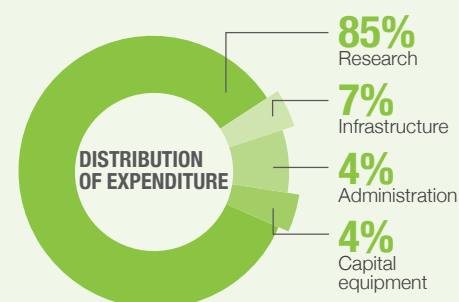
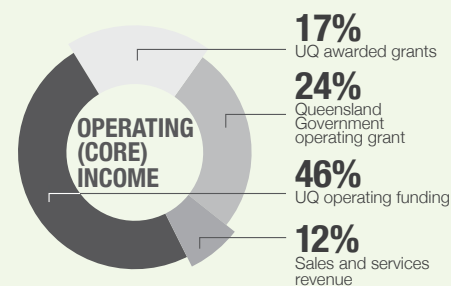
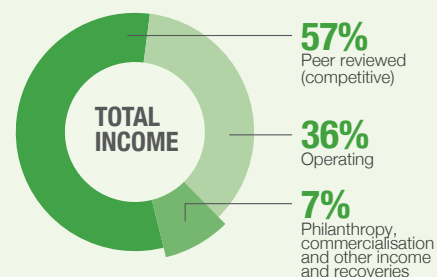
SUPPORTING INFORMATION

FINANCIAL STATEMENT

	2012 \$'000	2013 \$'000	2014 \$'000
INCOME			
Peer reviewed income			
ARC grants	9,702	7,280	7,355
NHMRC grants	21,753	21,732	18,843
Queensland Government grants	3,946	2,224	1,035
Other peer reviewed grants – domestic	4,207	3,328	3,735
Other peer reviewed grants – international	2,462	1,624	914
Operating income			
UQ awarded grants	4,580	3,742	3,571
UQ operating funding	6,812	6,803	9,419
Queensland Government operating grant	10,000	10,000	5,000
Sales and services revenue	957	1,337	2,554
Other income			
Philanthropy	168	217	309
Commercialisation	3,525	2,740	2,761
Other income and recoveries	782	918	835
TOTAL INCOME	68,893	61,945	56,330
	2012	2013	2014
	\$'000	\$'000	\$'000
EXPENDITURE			
Remuneration expenditure			
Researchers	34,598	36,328	33,635
Infrastructure	3,016	2,816	2,879
Administrative	2,414	2,145	2,242
Research expenditure			
Research services	15,525	17,753	15,356
Commercialisation*	600	356	35
Research higher degree support	1,387	1,570	1,563
UQ internal collaborations and agreements	1,413	912	820
Operating expenditure			
Capital equipment	5,104	3,230	2,355
Information technology	529	438	749
Administration and support	382	290	409
Infrastructure and development	733	749	857
TOTAL EXPENDITURE	65,701	66,587	60,899
NET SURPLUS/(DEFICIT)	3,192	(4,642)	(4,569)**

*UniQuest (IMBcom) service agreement

**This figure includes an allowable operating deficit of \$586k and the remainder is the expenditure of carried forward research funds



SUPPORTING INFORMATION

RESEARCH GRANTS LIST



GRANTING BODY	INVESTIGATORS	PROJECT TITLE	DURATION	TOTAL GRANT AMOUNT
Department of Innovation, Industry, Science and Research, Australia-India Strategic Research Fund	Cooper M , O'Neil L, Robertson A , Mamidyala S	Novel immunomodulatory agents for type II diabetes through targeting the NLRP3 inflammasome signalling cascade	3 years	\$282,365
Australian Research Council	Whisstock J, Ross J, Heath W, Quiney H, Nugent K, Godfrey D, Abbey B, Fairlie D , Gaus K	ARC Centre of Excellence in Advanced Molecular Imaging	7 years	\$27,999,996
Australian Research Council	Davis T, Caruso F, Boyd B, Bunnet N, Corrie S, Krampin E, Gooding E, Johnston A, Kavallaris M, Kearnes M, Kendall M, Kent S, Nann T, Parton R , Porter C, Thordarson P, Thurecht K, Voelcker N, Whittaker A	ARC Centre of Excellence in Convergent Bio-Nano Science and Technology	6 years	\$26,000,000
ARC Discovery Early Career Researcher Award	Bastiani M	Caveolae as structural mechanosensors: a link between the intra and extracellular environments?	3 years	\$389,220
ARC Discovery Project	Coin L , Lajoie M , Martin N, Hoggart C	Using population resequencing data to investigate the evolutionary role and functional impact of inversion polymorphisms	3 years	\$90,000
ARC Discovery Project	Francois M , Parat M	Deciphering the cellular functions of caveolae that govern lymphatic vascular development	3 years	\$405,000
ARC Discovery Project	Bowles J	Modelling stem cell decisions in mouse germ cells	3 years	\$385,000
ARC Discovery Project	Stow J , Muscat G	Cholesterol and hydroxycholesterol shaping phagocytosis	3 years	\$420,000
ARC Linkage Project	Gambin Y , Francois M , Hopkins R, Watt P	Targeting the undruggable: epitope mapping using phylomers peptides to modulate activity of transcription factors	3 years	\$546,420
ARC Linkage Project	King G , Fry B , Venter D, Hamilton B	Imaging the world of miniature venomous arthropods	3 years	\$425,000
ARC Linkage Infrastructure, Equipment and Facilities	Drennan J, Zou J, Ma Q, Parton R , Zhang M, Motta N, Vernon K, De Marco R, Ventura T, Mcmillan D	Dual column-focused ion beam/ scanning electron microscope facility for Queensland	1 year	\$890,000

Please note: Only newly awarded grants commencing in 2014 are included in this list. IMB researchers are indicated in bold.

RESEARCH GRANTS LIST

GRANTING BODY	INVESTIGATORS	PROJECT TITLE	DURATION	TOTAL GRANT AMOUNT
Diabetes Australia Research Trust	Pearen M, Muscat G	Examining the metabolic role of the orphan nuclear receptor Nurr1 in skeletal muscle	1 year	\$58,200
Group of 8 European Fellowship	Sweet M	Award to host M Kindlova for six months	1 year	\$20,000
Human Frontier Science Program	Grill S, Bryant Z, Yap A	Optomechanics: a novel approach for studying the actomyosin cell cortex at multiple scales	3 years	\$1,018,185
Lymphatic Education and Research Network Postdoctoral Fellowship (USA)	Koltowska K	Characterisation of a novel modulator of a Vegfc/Vegfr3 signalling during lymphatic development	2 years	\$98,975
National Breast Cancer Foundation - Novel Concept Award	Ragan M	Discovery of molecular networks driving organotropic metastasis in breast cancer	2 years	\$193,904
NHMRC Career Development Fellowship	Collins B	Peripheral membrane proteins in health and disease	4 years	\$447,840
NHMRC Development Grant	Craik D , Clark R, Charman S	Development of peptide based pain therapeutics	3 years	\$574,503
NHMRC Development Grant	Hankamer B , Young P, Kendall M, Oey M	Dengue virus vaccine production in the microalgae <i>Chlamydomonas reinhardtii</i>	3 years	\$591,894
NHMRC Development Grant	Smythe M , Phipps S	The development of human hematopoietic prostaglandin D2 synthase inhibitors in allergic asthma and related disorders	2 years	\$328,781
NHMRC Early Career Fellowship	Swedberg J	Design and evaluation of inhibitors targeting serine proteases in blood to alleviate systemic inflammatory response to coronary artery bypass graft surgery	4 years	\$309,434
NHMRC Early Career Fellowship	Deplazes E	Venoms to drugs: characterising the molecular interactions between venom peptides and ion channels with a view to rational drug design	4 years	\$309,434
NHMRC Early Career Fellowship	Morris V	Investigating the toxic particles formed by the Alzheimer's disease protein amyloid-beta	4 years	\$338,314
NHMRC - European Union Collaborative Research Grant	Andrews K, Fairlie D	New drugs for parasitic diseases	2 years	\$270,880
NHMRC Project Grant	Alewood P , Brierley S	Role of oxytocin in chronic visceral pain	3 years	\$660,558
NHMRC Project Grant	Piper M, Heng J, Bailey T	Regulation of neural progenitor cell self-renewal by the RNA-binding protein ZFP36L1 during development and disease	3 years	\$334,115



GRANTING BODY	INVESTIGATORS	PROJECT TITLE	DURATION	TOTAL GRANT AMOUNT
NHMRC Project Grant	Lynch J, Capon R	A novel mechanism for therapeutically modulating neurotransmitter-activated ion channels	3 years	\$656,532
NHMRC Project Grant	Collins B , Coulson E, Hong W	Endosomal sorting of amyloid precursor protein in Alzheimer's disease	4 years	\$824,192
NHMRC Project Grant	King G , Widdop R	Development of selective blockers of acid sensing ion channel 1a for the treatment of stroke	3 years	\$679,222
NHMRC Project Grant	Rash L, King G , Smith M	Developing subtype-selective blockers of acid-sensing ion channels for treating peripheral pain	3 years	\$619,890
NHMRC Project Grant	Meunier F, Collins B	Uncover how Myosin-6 underpins the Ca ²⁺ -dependent recruitment of secretory vesicles to the cortical actin network	3 years	\$541,855
NHMRC Project Grant	Cooper M	Potent lipoglycopeptide antibiotics against <i>C. difficile</i>	3 years	\$724,962
NHMRC Project Grant	Hansbro P, Hugenholtz P, Cooper M	Modification of the microbiome and utilisation of microbial products as novel treatments for COPD	4 years	\$1,199,621
NHMRC Project Grant	Craik D, Troeira Henriques S, Kaas Q	Development of next generation drugs for chronic myeloid leukaemia	3 years	\$611,894
NHMRC Project Grant	Rossy J, Hatters D, Gambin Y	Spatial organization of Lck as a regulator mechanism of TCR signalling	3 years	\$591,107
NHMRC Project Grant	Little M, Hamilton N , Macmahon A, Kopan R	Understanding the regulation of kidney morphogenesis in order to improve renal development	3 years	\$660,558
NHMRC Project Grant	Martin J , Scanlon M, Sarkar-Tyson M, Currie B	Burkholderia pseudomallei disulfide-forming proteins: structure, function and inhibition	3 years	\$683,920
NHMRC Project Grant	Martin J, Whitten A	Molecular dissection of the Munc18c:Syntaxin4 complex required for insulin-regulated exocytosis in adipocytes	3 years	\$581,226
NHMRC Project Grant	Schroder K	Microbial evasion of a novel inflammasome by <i>Salmonella</i>	3 years	\$470,171
NHMRC Project Grant	Sweet M	Defining the role of zinc in human macrophage responses to <i>Salmonella</i>	3 years	\$572,562
NHMRC Project Grant	Schembri M, Sweet M , Ulett G	Immune cell involvement in urinary tract infections	3 years	\$632,466
NHMRC Project Grant	Simons C, Taft R , Vanderver A, Leventer R, Hogan B	Using high-throughput genomics to reveal the deleterious genetic changes that underlie paediatric leukoencephalopathies	3 years	\$971,524
NHMRC Project Grant	Yap A , Neufeld A, Gomez G , Simpson P	(Dys)regulating junctional tension: a novel mechanism in tumor cell biology	3 years	\$708,285

RESEARCH GRANTS LIST



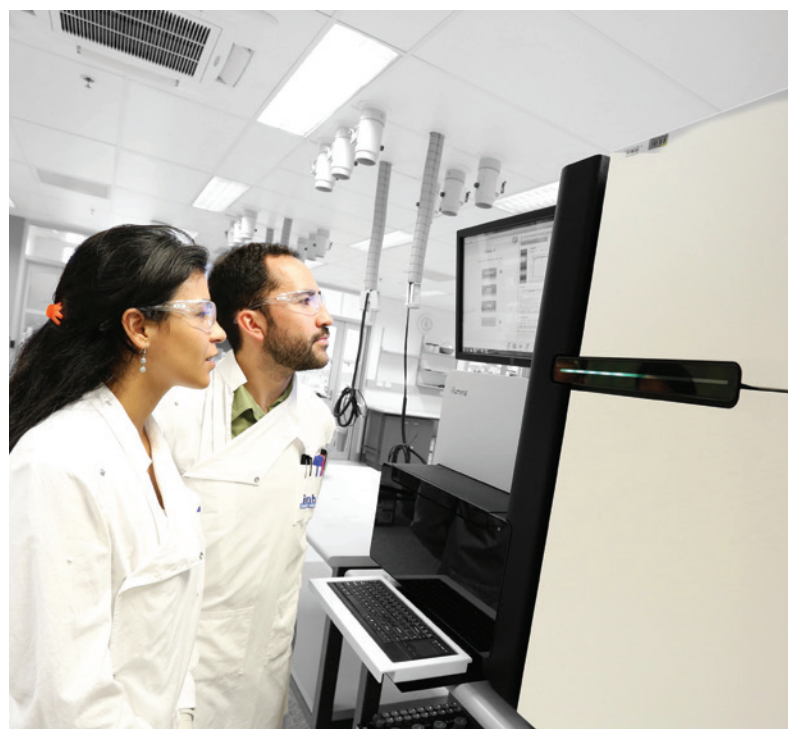
GRANTING BODY	INVESTIGATORS	PROJECT TITLE	DURATION	TOTAL GRANT AMOUNT
NHMRC Research Fellowship	Cooper M	New antibiotics and treatment methods against drug-resistant bacteria	5 years	\$739,979
NHMRC Research Fellowship	Koopman P	Disorders of gonadal development: molecular approaches to improved patient care	5 years	\$836,915
NHMRC Research Fellowship	Muscat G	Endocrine control of metabolic disease	5 years	\$739,979
NHMRC Research Fellowship	Parton R	Multiscale analysis of plasma membrane microdomains in health and disease	5 years	\$836,915
National Institutes of Health (USA)	Bailey T , Noble W (US Lead)	The MEME Suite of motif-based sequence analysis tools (NIH subcontract lead by the University of Washington)	1 year	\$120,241
National Institutes of Health (USA)	Little M , Macmahon A (US Lead)	GUDMAP2: Production of mouse strains for gene anatomy of the lower urinary tract (NIH grant administered by the University of Southern California)	1 year	\$130,187
Prostate Cancer Foundation of Australia	Alexandrov K, Stein V	Development of highly sensitive diagnostic test for active form of prostate specific antigen	1 year	\$150,000
Queensland Government — Accelerate Partnerships Scheme	Ragan M , Abal E, Beeden R, Bourne D, Foret S, Gilbert A, Goegh-Guldbert O, Leggat B, Miller D, Tyson G, Van Oppen M	Coral genomes along environmental gradients	3 years	\$500,000
The Australian Diabetes Society — Skip Martin Early Career Fellowship	Pearen M	Examining the metabolic role of the orphan nuclear receptor Nurr1 in skeletal muscle	1 year	\$85,000
Cancer Council Queensland	Muscat G, Rudd S	Protein arginine methyltransferase 6 dependent signalling in breast cancer	2 years	\$200,000
Group of 8 Australia — Germany DAAD Joint Research Cooperation Scheme	Hankamer B, Oey M , Sawyer A	Protein engineering to increase light-to-hydrogen production in algae	2 years	\$20,000
Group of 8 Australia — Germany DAAD Joint Research Cooperation Scheme	Teasdale R, Kerr M	Molecular dissection of host-pathogen interactions	2 years	\$19,600
UQ Collaboration and Industry Engagement Fund	Cooper M , Hugenholtz P	Novel treatments for inflammatory bowel disease	1 year	\$74,960
UQ Collaboration and Industry Engagement Fund	Blaskovich M, Schembri M	Enrichment, detection and identification of bacteria in blood and urine	1 year	\$74,440



GRANTING BODY	INVESTIGATORS	PROJECT TITLE	DURATION	TOTAL GRANT AMOUNT
UQ Early Career Researcher Grant	Chan C	Host-specific adaptive evolution of the coral reef symbiont <i>Symbiodinium</i>	1 year	\$26,817
UQ Early Career Researcher Grant	Kaas Q	Exploring the specificity of a family of peptide drug leads targeting the nervous system	1 year	\$30,000
UQ Early Career Researcher Grant	Song S	Cancer genome screening using circulating tumour DNA in plasma	1 year	\$24,000
UQ Early Career Researcher Grant	Wang C	Bioengineering stable peptide inhibitors of amyloidosis	1 year	\$20,183
UQ Foundation Research Excellence Award	Coin L	Identification of structural variation associated with auto-immune disorders	1 year	\$90,000
UQ Foundation Research Excellence Award	Schroder K	Pinpointing the initiation of immune responses	1 year	\$80,000
UQ Major Equipment and Infrastructure and NHMRC Equipment Grant	Fairlie D, Reid R, Liu L, Stoermer M, Mak J, Hill T, Dantas De Araujo A, Capon R, Alewood P, Cooper M, Butler M, Smythe M, Blaskovich M	Continuous-flow hydrogenation reactor (H-Cube Pro)	1 year	\$60,875
UQ Major Equipment and Infrastructure and NHMRC Equipment Grant	Little M, Hogan B, Koopman P, Wicking C, Francois M, Teasdale R, Yap A, Parton R, Sweet M	Leica TCS SP8 microscope	1 year	\$365,022
UQ Major Equipment and Infrastructure and NHMRC Equipment Grant	Gonda T, Monteith G, Cabot P, Vetter I , Parat M	A medium-throughput cell isolation and analysis suite	1 year	\$79,873
UQ Major Equipment and Infrastructure and NHMRC Equipment Grant	Borgess K, Chen C, Mazzone S, McCombe P, Minchin R, Moritz K, Muscat G , Piper J, Steptoe R, Thomas W, Waters M , Wolvetang E	Mitochondrial analysis suite	1 year	\$175,500
UQ Postdoctoral Research Fellowship	Iyer A	KDACs control TLR4/NLRP3-induced immune response by altering cellular metabolism	3 years	\$318,517
UQ Postdoctoral Research Fellowship	Walker A	Survey of diverse invertebrate lineages to discover novel classes of human Na _v 1.7 inhibitors	3 years	\$305,111
UQ Postdoctoral Research Fellowship	Spiller C	CRIPTO as a diagnostic test for testicular cancer	3 years	\$318,141
UQ Postdoctoral Fellowships for Women	Hardy M	Using spider venom components as novel scaffolding for veterinary pharmaceuticals	3 years	\$318,587
UQ Travel Awards for International Collaborative Research	Song F, Capon R	Return airfare from China	N/A	N/A

SUPPORTING INFORMATION

RESEARCH SUPPORT FACILITIES



PHOTOS (LEFT TO RIGHT): ACRF Cancer Biology Imaging Facility users Dr Guillermo Gomez and Dr Selwin Wu; IMB Sequencing Facility users Ms Joelle Kartopawiro and Mr Claudio Cortes Rodriguez; Mass Spectrometry Facility user Dr Jenny Zhang; Biomolecular NMR Facility Manager Dr Peta Harvey.

ACRF Cancer Biology Imaging Facility

The Australian Cancer Research Foundation's (ACRF) Cancer Biology Imaging Facility is one of the largest and most comprehensively equipped facilities in Australia. Founded in 2010 with a \$2.5 million ACRF grant, the facility houses 23 high-performance microscopes and provides on-site expert technical support and training. In 2014, 204 unique users across UQ used the facility.

By using techniques such as laser scanning and spinning disc confocal microscopy, deconvolution, high-throughput multi-well imaging and 3D optical projection tomography (OPT), researchers made breakthroughs in a range of areas. A notable breakthrough came when researchers obtained the first high-resolution structural characterisation of the coat complex associated with caveolae, which are plasma membrane organelles previously linked to breast cancer and prostate cancer, and now also thought to be linked to cancer spread.

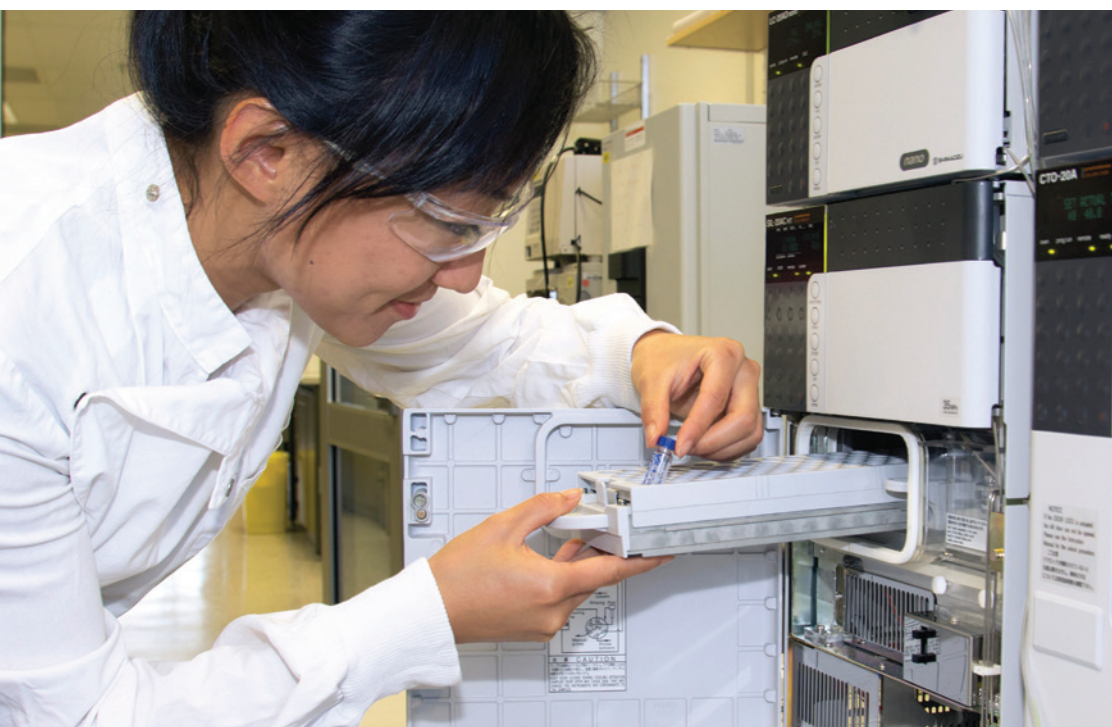
With the facility's support, these and other studies published in 2014 have uncovered important new knowledge in health and disease, and data generated from facility in 2014 featured in more than 26 peer-reviewed publications.

IMB Sequencing Facility

In May 2014 the IMB Sequencing Facility (ISF) was established to provide sequencing services to IMB, UQ and the research community in the greater Brisbane region. The ISF provides services on Illumina's NextSeq 500 and the MiSeq sequencing platforms.

The facility offers sample preparation for sequencing of RNA from any species, whole exome sequencing for human DNA and whole genome sequencing for non-human species. The ISF also offers sample preparation and sequencing of custom projects including large-scale projects, for which the facility is equipped with a high-throughput sample preparation robot.

In its first year of operation, 21 unique research groups and 47 individual users from UQ and QIMR Berghofer Medical Research Institute used the facility for sample preparation and sequencing services.



Mass Spectrometry Facility

IMB's Mass Spectrometry Facility (MSF) provides researchers with state-of-the-art mass spectrometry, high-performance liquid chromatography and robotic instrumentation.

The MSF provides technical advice, and research and training support in a number of mass spectrometric techniques including protein interactions and structures, amino acid sequence, post-translational modifications, compound stability and bioavailability of potential therapeutics in a range of biological systems.

In 2014, 115 unique users and 32 research groups from UQ, CSIRO, Sunshine Coast University, Griffith University, QUT and James Cook University accessed the facility for help with experimental design, methodology, data acquisition, data processing, and project reporting and publication.

The facility supported several major discoveries in more than 50 publications, including the use of mass spectrometry to study toxin evolution, protein interaction networks, and animal venoms under varying biological conditions.

The facility acknowledges funding from the Australian Research Council Linkage Infrastructure, Equipment and Facilities (LIEF) Project.

Biomolecular NMR Facility

IMB's Biomolecular Nuclear Magnetic Resonance (NMR) Facility makes the powerful technique of NMR spectrometry accessible to its research and industry clients. The facility comprises a 600 MHz spectrometer with a recent upgrade of a cryoprobe and autosampler, and a 500 MHz spectrometer equipped with a robotic sample changer.

In addition to the institute's extensive NMR infrastructure, researchers have access to a 900 MHz spectrometer equipped with a cryoprobe and sample changer. This instrument, located at IMB, is an instrument of the Queensland NMR Network and is the most powerful state-of-the-art NMR spectrometer in Australia.

Key discoveries made in 2014 using the facility included structural characterisation of several naturally occurring peptides and numerous venoms, translational diffusion analysis of cyclic peptides, and NMR-guided rational design and synthesis of orally bioavailable peptides.

The facility is available on a user-pays system to researchers from a range of scientific disciplines both within IMB and across UQ. The facility also holds collaborations with researchers from other Australian universities as well as several international collaborations, most recently with scientists from Belgium, Norway, China, and the United States.



UQ ROCX Facility Manager Mr Karl Byriel



QFAB Bioinformatics staff member Ms Anne Kunert

UQ ROCX Crystallisation and X-ray Diffraction Facility

The UQ Remote Operation Crystallisation and X-ray Diffraction (UQ ROCX) Facility provides research training and support for protein structure determination.

This support includes protein crystallisation condition screening, crystal diffraction screening, data collection, data processing, and structure determination.

The diffraction facility houses Queensland's brightest research X-ray source and only robotic crystallographic sample storage and retrieval system. The crystallisation facility is fully equipped for screening membrane proteins and for fragment screening.

In 2014, 71 unique users accessed the facility. Collectively, users performed 104,640 crystallisation experiments and collected 17 in-house diffraction data sets. UQ ROCX coordinated 14 remote access data collection beam times at the Australian Synchrotron, at which several hundred diffraction data sets were collected from over 1,500 frozen crystals sent.

In addition to servicing the crystallography requirements of UQ ROCX users, two projects were undertaken for non-crystallographer users. For the first time, project data sets were collected from six crystals and an initial model was generated for further refinement by the user. Six refined crystal structures arose from this work, as well as one publication. The second project involved screening for crystallisation conditions of two proteins: conditions for one of these proteins are now being optimised to generate crystals suitable for diffraction data measurement.

Two RockMaker crystallisation analysis workshops were run for users in 2014 and 16 scientific papers that acknowledged support by the facility were published.

UQ ROCX is funded by the Australian Research Council and UQ.

Solar Biofuels Research Centre

IMB's Solar Biofuels Research Centre (SBRC) provides a research hub for industry and university partners skilled in biology, engineering and systems development.

Located at Pinjarra Hills in Brisbane, the SBRC is home to a pilot scale test facility that develops microalgae systems for the production of food, fuel, biofuels, bioproducts and bioremediation.

The \$3.48 million SBRC project incorporates one of the most advanced pilot plants internationally in terms of its capacity to develop high-efficiency microalgae systems. It was launched in 2013 by IMB in partnership with the Queensland Government, KBR Inc., Neste Oil Corp, Cement Australia Pty Ltd, Siemens, Bielefeld University and the Karlsruhe Institute of Technology in Germany.

Capabilities of the SBRC include: strain purification; cryopreservation; nutrient and light optimisation; metabolic engineering; high value product development and screening; photobioreactor and raceway system design; and technoeconomic analysis.

QFAB Bioinformatics

QFAB Bioinformatics (QFAB) provides rapid, flexible and customised bioinformatics and biostatistics services to life sciences and clinical researchers.

Working closely with researchers, QFAB team members apply data management, integration, analysis and visualisation techniques to unlock the full value of large-scale biological and clinical datasets.

In 2014, QFAB undertook 50 projects supporting researchers from industry, universities, medical research institutes, and government departments. These projects included developing an online tool to support and automate the identification and submission of new toxins from the venom gland transcriptomes of spiders; assessing the importance of parameter selection during lateral gene transfer network predictions; and analysing sequencing data to identify clinically relevant genetic aberrations from oral malignant disorders and oral epithelial dysplasia.

To further empower researchers in mastering their data generation and analysis, QFAB delivered 25 courses and workshops in 2014 covering statistics, computing and bioinformatics to more than 500 attendees.

QFAB's systems biology platform consists of leading software packages, data repositories and workflow engines deployed in a scalable high-performance computational environment. This platform enables investigations across the biological continuum by combining bioinformatics and cheminformatics approaches.

QFAB Bioinformatics partners with UQ, QUT and Griffith University.



SUPPORTING INFORMATION

OCCUPATIONAL HEALTH AND SAFETY

During 2014, IMB maintained its strong safety culture through a sustained effort to review and improve occupational health and safety (OHS) procedures.

In particular, the team focused on aligning the institute's OHS policies and procedures with those of the university, where appropriate, to ensure a consistent safety framework for its staff, students, visitors, contractors and volunteers.

Work also began to amend the IMB internal safety audit process to more closely reflect UQ-wide systems. This included introducing a formal annual Workplace Health and Safety Coordinator Safety Audit process. The findings from this audit were discussed at the final IMB OHS committee meeting for 2014 and several areas for improvement were identified.

From July to September, IMB Safety Manager Dr Paul Lovelock undertook a secondment as Senior Advisor (OHS Programs) in the UQ OHS Division. Dr Ian Lane (IMB Floor

Manager) acted as IMB's Safety Manager for this period. Both Paul and Ian developed new skills by acting in these different roles. These skills will aid in further developing IMB's safety systems, including the in-house provision of OHS training for managers and supervisors, which is normally delivered through the UQ Staff Development program.

Several facilities and structures within the Queensland Bioscience Precinct (QBP) underwent structural and procedural changes during 2014, requiring changes to their OHS procedures. In particular, IMB's Queensland Centre for Medical Genomics facility on level 5 north was decommissioned and reverted to its original capacity, creating more general laboratory space.

During the year the institute passed all Department of Agriculture (Biosecurity) and the Office of Gene Technology Regulator (OGTR) audits. OGTR personnel also visited IMB's Solar Biofuels Research Centre at UQ's Pinjarra Hills site in August for preliminary discussions into the use of the facility to grow genetically modified algae. These discussions are ongoing.

IMB worked closely with the federal Department of Agriculture (Biosecurity) on several occasions to secure clearance for biological and chemical materials that arrived uninspected or without documentation. IMB also reviewed and submitted feedback for the Department's draft Biosecurity Bill 2014, PC1 Draft Quarantine class criteria documents, and its new Biosecurity Import Conditions (BICON) electronic permit application system. IMB OHS also prepared and submitted a response to Queensland Health's draft Medicine, Poisons and Therapeutic Goods Bill 2014.

IMB OHS continued to work closely with other QBP tenants – CSIRO, the Department of Agriculture, Fisheries and Forestry (DAFF) and the Queensland Alliance for Agriculture and Food Innovation (QAAFI), to provide building fire warden training, first aid, and regular duress alarm testing.

OHS HIGHLIGHTS

- Held 36 QBP safety committee meetings
- Inducted 186 visitors, staff and students to IMB
- Inducted 82 external contractors to the Queensland Bioscience Precinct
- Recertified or trained 36 fire wardens
- Achieved an average 99 per cent compliance with UQ general workplace safety online training
- Achieved an average 97 per cent compliance with UQ fire safety online training
- Achieved an average 76 per cent compliance with UQ chemical safety online training.

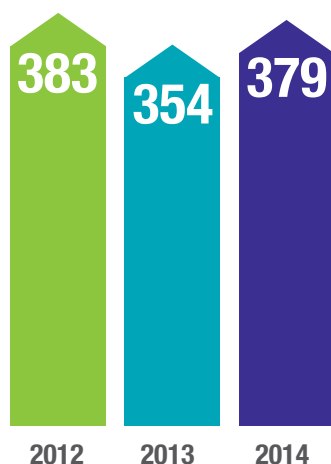
SUPPORTING INFORMATION

SCIENTIFIC PUBLICATIONS



Associate Professor Matt Sweet
and Dr Ronan Kapetanovic

TOTAL IMB SCIENTIFIC PUBLICATIONS



High-impact peer reviewed papers (impact factor >10)

1. Adams, Luke A., Sharma, Pooja, Mohanty, Biswaranjan, Ilyichova, Olga V., Mulcair, Mark D., Williams, Martin L., Gleeson, Ellen C., Totsika, Makrina, Doak, Bradley C., Caria, Sofia, Rimmer, Kieran, Horne, James, Shouldice, Stephen R., Vazirani, Mansha, Headey, Stephen J., Vazirani, Mansha, Headey, Stephen J., Plumb, Brent R., Martin, Jennifer L., Heras, Begona, Simpson, Jamie S. and Scanlon, Martin J. (2014) Application of Fragment-Based Screening to the Design of Inhibitors of *Escherichia coli* DsbA1. *Angewandte Chemie*, doi:10.1002/ange.201410341 **IF=11.336**
2. Anderson S.T., Kaforou M., Brent A.J., Wright V.J., Banwell C.M., Chagaluka G., Crampin A.C., Dockrell H.M., French N., Hamilton M.S., Hibberd M.L., Kern F., Langford P.R., Ling L., Mlotha R., Ottenhoff T.H.M., Pienaar S., Pillay V., Scott J.A.G., Twahir H., Wilkinson R.J., Coin 3. L.J., Heyderman R.S., Levin M. and Eley B. (2014) Diagnosis of childhood tuberculosis and host RNA expression in Africa. *New England Journal of Medicine*, 37018: 1712-1723. doi:10.1056/NEJMoa1303657 **IF=54.42**
3. Akondi, Kalyana, Muttenthaler, Markus, Dutertre, Sébastien, Kaas, Quentin, Craik, David J., Lewis, Richard J. and Alewood, Paul F. (2014) Discovery, synthesis, and structure: activity relationships of conotoxins. *Chemical Reviews, Articles ASAP* 11: 1-33. doi:10.1021/cr400401 **IF=45.661**
4. Aspelund, Aleksanteri, Tammela, Tuomas, Antila, Salli, Nurmi, Harri, Leppanen, Veli-Matti, Zarkada, Georgia, Stanczuk, Lukas, Francois, Mathias, Makinen, Tajja, Saharinen, Pipsa,



IMB researchers contributed to 379 scientific publications during 2014, including 60 high-impact publications, which each had an impact factor greater than 10.

Impressively, IMB researchers contributed 48% of UQ's *Nature Publishing Index* (as of December 2014), where UQ leads Australian institutions and is amongst the Asia-Pacific's top 10.

Disseminating new knowledge to research colleagues around the world is critical to the success of IMB. Publications are a key indicator of the institute's exceptional research quality and output.

- Immonen, Ilkka and Alitalo, Kari (2014) The Schlemm's canal is a VEGF-C/VEGFR-3-responsive lymphatic-like vessel. *The Journal of Clinical Investigation*, 124 9: 3975-3986. doi:10.1172/JCI75395 **IF=13.765**
5. Ay, Ferhat, Bailey, Timothy L. and Noble, William Stafford (2014) Statistical confidence estimation for Hi-C data reveals regulatory chromatin contacts. *Genome Research*, 24 6: 999-1011. doi:10.1101/gr.160374.113 **IF=13.852**
6. Bende, Niraj S., Dziemborowicz, Sławomir, Mobli, Mehdi, Herzig, Volker, Gilchrist, John, Wagner, Jordan, Nicholson, Graham M., King, Glenn F and Bosmans, Frank (2014) A distinct sodium channel voltage-sensor locus determines insect selectivity of the spider toxin Dc1a. *Nature Communications*, 5. doi:10.1038/ncomms5350 **IF=10.742**
7. Benevento, Marco, Tonge, Peter D., Puri, Mira C., Hussein, Samer M. I., Cloonan, Nicole, Wood, David L., Grimmond, Sean M., Nagy, Andras, Munoz, Javier and Heck, Albert J. R. (2014) Proteome adaptation in cell reprogramming proceeds via distinct transcriptional networks. *Nature Communications*, 5. doi:10.1038/ncomms6613 **IF=10.742**
8. Bezbradica, Jelena S., Rosenstein, Rachel K., Demarco, Richard A., Brodsky, Igor and Medzhitov, Ruslan (2014) A role for the ITAM signaling module in specifying cytokine-receptor functions. *Nature Immunology*, 15 4: 333-342. doi:10.1038/ni.2845 **IF=24.973**
9. Boradia, Vishant Mahendra, Malhotra, Himanshu, Thakkar, Janak Shrikant, Tillu, Vikas Ajit, Vuppala, Bhavana, Patil, Pravinkumar, Sheokand, Nadeep, Sharma, Prerna, Chauhan, Anoop Singh, Raje, Manoj and Raje, Chaaya lyengar (2014) Mycobacterium tuberculosis acquires iron by cell-surface sequestration and internalization of human holo-transferrin. *Nature Communications*, 5 4730: 1-13. doi:10.1038/ncomms5730 **IF=10.742**
10. Bracken, Cameron P., Li, Xiaochun, Wright, Joesphine A., Lawrence, David, Pillman, Katherine A., Salmanidis, Markia, Anderson, Matthew A., Dredge, B. Kate, Gregory, Philip A., Tsykin, Anna, Neilsen, Corine, Thomson, Daniel W., Bert, Andrew G., Leerberg, Joanne M., Yap, Alpha S., Jensen, Kirk B., Khew-Goodall, Yeesim and Goodall, Gregory J. (2014) Genome-wide identification of miR-200 targets reveals a regulatory network controlling cell invasion. *The EMBO Journal*, 33 18: 2040-2056. doi:10.15252/emboj.201488641 **IF=10.748**
11. Brooks, Andrew J., Dai, Wei, O'Mara, Megan L., Abankwa, Daniel, Chhabra, Yash, Pelekanos, Rebecca A., Gardon, Olivier, Tunny, Kathryn A., Blucher, Kristopher M., Morton, Craig J., Parker, Michael W., Sierecki, Emma, Gambin, Yann, Gomez, Guillermo A., Alexandrov, Kirill, Wilson, Ian A., Doxastakis, Manolis, Mark, Alan E. and Waters, Michael J. (2014) Mechanism of activation of protein kinase JAK2 by the growth hormone receptor. *Science*, 344 6185: 1249783.1-1249783.12. doi:10.1126/science.1249783 **IF=31.477**
12. Butler, Mark S., Robertson, Avril A. B. and Cooper, Matthew A. (2014) Natural product and natural product derived drugs in clinical trials. *Natural Product Reports*, 31 11: 1612-1661. doi:10.1039/c4np00064a **IF=10.715**
13. Campbell, Bradley C., Gilding, Edward K., Timbrell, Victoria, Guru, Preethi, Loo, Dorothy, Zennaro, Danila, Mari, Adriano, Solley, Graham, Hill, Michelle M., Godwin, Ian D. and Davies, Janet M. (2014) Total transcriptome, proteome, and allergome of Johnson grass pollen, which is important for allergic rhinitis in subtropical regions. *Journal of Allergy and Clinical Immunology*, 1-10. doi:10.1016/j.jaci.2014.06.034 **IF=11.248**
14. Carlino, Matteo S., Kwan, Vu, Miller, David K., Saunders, Catherine A. B., Yip, Desmond, Nagrial, Adnan M., Tomlinson, Jeanne, Grimmond, Sean M., Scolyer, Richard A., Kefford, Richard F., Biankin, Andrew V. and Long, Georgina V. (2014) New Ras-mutant pancreatic adenocarcinoma with combined BRAF and MEK inhibition for metastatic melanoma. *Journal of Clinical Oncology*, doi:10.1200/JCO.2013.51.5783 **IF=17.879**
15. Chang, David K., Grimmond, Sean M., Evans, T. R. Jeffry and Biankin, Andrew V. (2014) Mining the genomes of exceptional responders. *Nature Reviews Cancer*, 14 5: 291-292. doi:10.1038/nrc3723 **IF=37.912**
16. Chaudhary, Natasha, Gomez, Guillermo A., Howes, Mark T., Lo, Harriet P., McMahon, Kerrie-Ann, Rae, James A., Schieber, Nicole L., Hill, Michelle M., Gaus, Katharina, Yap, Alpha S. and Parton, Robert G. (2014) Endocytic Crosstalk: Cavins, Caveolins, and Caveolae Regulate Clathrin-Independent Endocytosis. *PLOS Biology*, 12 4: e1001832.1-e1001832.20. doi:10.1371/journal.pbio.1001832 **IF=11.771**
17. Clancy, Jennifer L., Patel, Hardip R., Hussein, Samer M. I., Tonge, Peter D., Cloonan, Nicole, Corso, Andrew J., Li, Mira, Lee, Dong-Sung, Shin, Jong-Yeon, Wong, Justin J. L., Bailey, Charles G., Benevento, Marco, Munoz, Javier, Chuah, Aaron, Wood, David, Rasko, John E. J., Heck, Albert J. R., Grimmond, Sean M., Rogers, Ian M., Seo, Jeong-Sun, Wells, Christine A., Puri, Mira C., Nagy, Andras and Preiss, Thomas (2014) Small RNA changes en route to distinct cellular states of induced pluripotency. *Nature Communications*, 5. doi:10.1038/ncomms6522 **IF=10.742**
18. Conibear, Anne C. and Craik, David J. (2014) The chemistry and biology of theta defensins. *Angewandte Chemie International Edition, Early View* 40: 10612-10623. doi:10.1002/anie.201402167 **IF=11.336**
19. Corbett, Alexandra J., Eckle, Sidonia B. G., Birkinshaw, Richard W., Liu, Ligong, Patel, Onisha, Mahony, Jennifer, Chen, Zhenjun, Reantragoon, Rangsimma, Meehan, Bronwyn, Cao, Hanwei, Williamson, Nicholas A., Strugnell, Richard A., Van Sinderen, Douwe, Mak, Jeffrey Y. W., Fairlie, David P., Kjer-Nielsen, Lars, Rossjohn, Jamie and McCluskey, James (2014) T-cell activation by transitory neo-antigens derived from distinct microbial pathways. *Nature*, 5097500: 361-365. doi:10.1038/nature13160 **IF=42.351**
20. Cossetti, Chiara, Iraci, Nunzio, Mercer, Tim R., Leonardi, Tommaso, Alpi, Emanuele, Drago, Denise, Alfaro-Cervello, Clara, Siani, Harpreet K., Davis, Matthew P., Schaeffer, Julia, Vega, Beatriz, Stefanini, Matilde, Zhao, CongJian, Muller, Werner, Garcia-Verdugo, Jose Manuel, Mathivanan, Suresh, Bachi, Angela, Enright, Anton J., Mattick, John S. and Pluchino, Stefano (2014) Extracellular vesicles from neural stem cells transfer IFN- γ via Ifngr1 to activate Stat1 signaling in target cells. *Molecular Cell*, 56 2: 193-204. doi:10.1016/j.molcel.2014.08.020 **IF=14.464**
21. Dantas De Araujo, Aline, Mobli, Mehdi, Castro, Joel, Harrington, Andrea M., Vetter, Irina, Dekan, Zoltan, Muttenthal, Markus, Wan, JingJing, Lewis, Richard J., King, Glenn F., Brierley, Stuart M. and Alewood, Paul F. (2014) Selenoether oxytocin analogues have analgesic properties in a mouse model of chronic abdominal pain. *Nature Communications*, 5 3165.1-3165.12. doi:10.1038/ncomms4165 **IF=10.742**
22. de Araujo, Aline D., Hoang, Huy N., Kok, W. Mei, Diness, Frederik, Gupta, Praveer, Hill, Timothy A., Driver, Russell W., Price, David A., Liras, Spiros and Fairlie, David P. (2014) Comparative α -Helicity of Cyclic Pentapeptides in Water. *Angewandte Chemie International Edition*,. doi:10.1002/ange.201310245 **IF=11.336**



23. Dekan, Zoltan, Mobli, Mehdi, Pennington, Michael W., Fung, Eileen, Nemeth, Elizabeta and Alewood, Paul F. (2014) Total synthesis of human hepcidin through regioselective disulfide-bond formation by using the safety-catch cysteine protecting group 4,4'-dimethylsulfinylbenzhydryl. *Angewandte Chemie International Edition*, 53 11: 2931-2934. doi:10.1002/anie.201310103 **IF=11.336**
24. Deng, Li, Ignacio-Espinoza, J. Cesar, Gregory, Ann C., Poulos, Bonnie T., Weitz, Joshua S., Hugenholtz, Philip and Sullivan, Matthe B. (2014) Viral tagging reveals discrete populations in *Synechococcus* viral genome sequence space. *Nature*, 513 242-245 + 13. doi:10.1038/nature13459 **IF=42.351**
25. Dutertre, Sébastien, Jin, Ai-Hua, Vetter, Irina, Hamilton, Brett, Sunagar, Kartik, Lavergne, Vincent, Dutertre, Valentin, Fry, Bryan G., Antunes, Agostinho, Venter, Deon J., Alewood, Paul F. and Lewis, Richard J. (2014) Evolution of separate predation- and defence-evoked venoms in carnivorous cone snails. *Nature Communications*, 5 3521: 1-9. doi:10.1038/ncomms4521 **IF=10.742**
26. Eckle S.B.G., Birkinshaw R.W., Kostenko L., Corbett A.J., McWilliam H.E.G., Reantragoon R., Chen Z., Gherardin N.A., Beddoe T., Liu L., Patel O., Meehan B., Fairlie D.P., Villadangos J.A., Godfrey D.I., Kjer-Nielsen L., McCluskey J. and Rossjohn J. (2014) A molecular basis underpinning the T cell receptor heterogeneity of mucosal-associated invariant T cells. *Journal of Experimental Medicine*, 211 8: 1585-1600. doi:10.1084/jem.20140484 **IF=13.912**
27. Gonzalez, Erik, Rother, Marion, Kerr, Markus C., Al-Zeer, Munir A., Abu-Lubad, Mohammad z, Kessler, Mirjana, Brinkmann, Volker, Loewer, Alexander and Meyer, Thomas F. (2014) Chlamydia infection depends on a functional MdM2-p53 axis. *Nature Communications*, . doi:10.1038/ncomms6201 **IF=10.742**
28. Gori, Alessandro, Wang, Ching-I A., Harvey, Peta J., Rosengren, K. Johan, Bhola, Rebecca F., Gelmi, Maria L., Longhi, Renato, Christie, Macdonald J., Lewis, Richard J., Alewood, Paul F. and Brust, Andreas (Epub 5/12/14) Stabilization of the Cysteine-Rich Conotoxin MrlA by Using a 1,2,3-Triazole as a Disulfide Bond Mimetic. *Angewandte Chemie - International Edition*, 54 1361-1364. doi:10.1002/anie.201409678 **IF=11.336**
29. Grimont, Adrien, Pinho, Andreia V., Cowley, Mark J., Augereau, Cécile, Mawson, Amanda, Giry-Laterrière, Marc, Van den Steen, Géraldine, Waddell, Nicola, Pajic, Marina, Sempoux, Christine, Wu, Jianmin, Grimmond, Sean M., Biankin, Andrew V., Lemaigre, Frédéric P., Rooman, Ilse and Jacquemin, Patrick (2014) SOX9 regulates ERBB signalling in pancreatic cancer development. *Gut*, 43 8: 1361-1361. doi:10.1136/gutjnl-2014-307075 **IF=13.319**
30. Gurzov, Esteban N., Tran, Melanie, Fernandez-Rojo, Manuel A., Merry, Troy L., Zhang, Xinmei, Xu, Yang, Fukushima, Atsushi, Waters, Michael J., Watt, Matthew J., Andrikopoulos, Sofianos, Neel, Benjamin G. and Tiganis, Tony (2014) Hepatic oxidative stress promotes insulin-STAT-5 signaling and obesity by inactivating protein tyrosine phosphatase N2. *Cell Metabolism*, 20 1: 85-102. doi:10.1016/j.cmet.2014.05.011 **IF=16.747**
31. Hamilton, Eline M., Polder, Emiel, Vanderver, Adeline, Naidu, Sakkubai, Schiffmann, Raphael, Fisher, Kate, Raguz, Ana Boban, Blumkin, Luba, H-ABC Research Group, van Berkel, Carola G. M., Waisfisz, Quinten, Simons, Cas, Taft, Ryan J., Abbink, Truus E. M., Wolf, Nicole I. and van der Knapp, Marjo S. (2014) Hypomyelination with atrophy of the basal ganglia and cerebellum: further delineation of the phenotype and genotype-phenotype correlation. *Brain*, 137 7: 1921-1930. doi:10.1093/brain/awu110 **IF=10.226**
32. Hardy, Margaret C. (2014) Sexual harassment: create ethics codes to curb sex abuse. *Nature*, 512 7513: 136-136. doi:10.1038/512136d **IF=42.351**
33. Hill, Timothy A., Shepherd, Nicholas E., Diness, Frederik and Fairlie, David P. (2014) Constraining cyclic peptides to mimic protein structure motifs. *Angewandte Chemie (International Edition)*, 53 48: 13020-13041. doi:10.1002/anie.201401058 **IF=11.336**
34. Hussein, Samer M. I., Puri, Mira C., Tonge, Peter D., Benevento, Marco, Corso, Andrew J., Clancy, Jennifer L., Mosbergen, Rowland, Li, Mira, Lee, Dong-Sung, Cloonan, Nicole, Wood, David L. A., Munoz, Javier, Middleton, Robert, Korn, Othmar, Patel, Hardip R., White, Carl A., Shin, Jong-Yeon, Gauthier, Maely E., Le Cao, Kim-Anh, Kim, Jong-Il, Mar, Jessica C., Shakiba, Nika, Ritchie, William, Rasko, John E. J., Grimmond, Sean M., Zandstra, Peter W., Wells, Christine A., Preiss, Thomas, Seo, Jeong-Sun, Heck, Albert J. R., Rogers, Ian M. and Nagy, Andras (2014) Genome-wide characterization of the routes to pluripotency. *Nature*, 516 7530: 198-+. doi:10.1038/nature14046 **IF=42.351**
35. Kovtun, Oleksiy, Tilu, Vikas A., Jung, WooRam, Leneva, Natalya, Ariotti, Nicholas, Chaudhary, Natasha, Mandayam, Ramya A., Ferguson, Charles, Morgan, Garry P., Johnston, Wayne A., Harrop, Stephen J., Alexandrov, Kirill, Parton, Robert G. and Collins, Brett M. (2014) Structural insights into the organization of the caveolin membrane coat complex. *Developmental Cell*, 31 4: 405-419. doi:10.1016/j.devcel.2014.10.002 **IF=10.366**
36. Lakshminarayan, Ramya, Wunder, Christian, Becken, Ulrike, Howes, Mark T., Benzing, Carola, Arumugam, Senthil, Sales, Susanne, Ariotti, Nicholas, Chambon, Valérie, Lamaze, Christophe, Loew, Damarys, Shevchenko, Andrej, Gaus, Katharina, Parton, Robert G. and Johannes, Ludger (2014) Galectin-3 drives glycosphingolipid-dependent biogenesis of clathrin-independent carriers. *Nature Cell Biology*, 16 6: 592-603. doi:10.1038/ncb2970 **IF=20.058**
37. Lopez-Rios J., Duchesne A., Speziale D., Andrey G., Peterson K.A., Germann P., Unal E., Liu J., Floriot S., Barbey S., Gallard Y., Muller-Gerberl M., Courtney A.D., Klopp C., Rodriguez S., Ivanek R., Beisel C., Wicking C., Iber D., Robert B., McMahon A.P., Duboule D. and Zeller R. (2014) Attenuated sensing of SHH by Ptch1 underlies evolution of bovine limbs. *Nature*, 511 7507: 46-51. doi:10.1038/nature13289 **IF=42.351**
38. Low, Pei Ching, Manzanero, Silvia, Mohannak, Nika, Narayana, Vinod K., Nguyen, Tam H., Kvaskoff, David, Brennan, Faith H., Ruitenberg, Marc J., Gelderblom, Mathias, Magnus, Tim, Kim, Hyun Ah, Broughton, Brad R. S., Sobey,
- Christopher G., Vanhaesebroeck, Bart, Stow, Jennifer L., Arumugam, Thiruma V. and Meunier, Frédéric A. (2014) PI3K delta inhibition reduces TNF secretion and neuroinflammation in a mouse cerebral stroke model. *Nature Communications*, 5 3450: 1-12. doi:10.1038/ncomms4450 **IF=10.742**
39. Luo, Lin, Wall, Adam A., Yeo, Jeremy C., Condon, Nicholas D., Norwood, Suzanne J., Schoenwaelder, Simone, Chen, Kaiwen W., Jackson, Shaun, Jenkins, Brendan J., Hartland, Elizabeth L., Schroder, Kate, Collins, Brett M., Sweet, Matthew J. and Stow, Jennifer L. (2014) Rab8a interacts directly with PI3Kγ to modulate TLR4-driven PI3K and mTOR signalling. *Nature Communications*, 5 4407:1-4407.13. doi:10.1038/ncomms5407 **IF=10.742**
40. Mahatmanto, Tunjung, Mylne, Joshua S., Poth, Aaron G., Swedberg, Joakim E., Kaas, Quentin, Schaefer, Hanno and Craik, David J. (2014) The evolution of Momordica cyclic peptides. *Molecular Biology and Evolution*. doi:10.1093/molbev/msu307 **IF=14.308**
41. Mak, Jeffrey Y. W., Pouwer, Rebecca H. and Williams, Craig M. (2014) Natural Products with Anti-Bredt and Bridgehead Double Bonds. *Angewandte Chemie International Edition*, 5350: 13664-13688. doi:10.1002/anie.201400932 **IF=11.336**
42. Martin, Hilary C., Wani, Shivangi, Steptoe, Anita L., Krishnan, Keerthana, Nones, Katia, Nourbakhsh, Ehsan, Vlassov, Alexander, Grimmond, Sean M. and Cloonan, Nicole (2014) Imperfect centered miRNA binding sites are common and can mediate repression of target mRNAs. *Genome Biology*, 15 3. doi:10.1186/gb-2014-15-3-r51 **IF=10.465**
43. Mathavan, Indran, Zirah, Séverine, Mehmood, Shahid, Choudhury, Hassanul G, Goulard, Christophe, Li, Yanyan, Robinson, Carol V, Rebuffat, Sylvie and Beis, Konstantinos (2014) Structural basis for hijacking siderophore receptors by antimicrobial lasso peptides. *Nature Chemical Biology*, 10 5: 340-342. doi:10.1038/nchembio.1499 **IF=13.217**
44. Mondav, Rhiannon, Woodcroft, Ben J., Kim, Eun-Hae, McCalley, Carmody K., Hodgkins, Suzanne B., Crill, Patrick M., Chanton, Jeffrey, Hurst, Gregory B., VerBerkmoes, Nathan C., Saleska, Scott R., Hugenholtz, Philip, Richy, Virginia I. and Tyson, Gene W. (2014) Discovery of a novel methanogen prevalent in thawing permafrost. *Nature Communications*, 5 3212:1-3212.7. doi:10.1038/ncomms4212 **IF=10.742**
45. Morran, Douglas C., Wu, Jianmin, Jamieson, Nigel B., Mrowinska, Agata, Kalna, Gabriela, Karim, Saadia A., Au, Amy Y. M., Scarlett, Christopher J., Chang, David K., Pajak, Malgorzata Z., Australian Pancreatic Cancer Genome Initiative (APGI), Oien, Karin A., McKay, Colin J., Carter, C. Ross, Gillen, Gerry, Champion, Sue, Pilmott, Sally L., Anderson, Kurt I., Evans, T. R. Jeffry, Grimmond, Sean M., Biankin, Andrew V., Sansom, Owen J. and Morton, Jennifer P. (2014) Targeting mTOR dependency in pancreatic cancer. *Gut*, 63 9: 1481-1489. doi:10.1136/gutjnl-2013-306202 **IF=13.319**
46. Ndieyira, Joseph W., Kappeler, Natascha, Logan, Stephen, Cooper, Matthew A., Abell, Chris, McKendry, Rachel A. and Aepli, Gabriel (2014) Surface-stress sensors for rapid



- and ultrasensitive detection of active free drugs in human serum. *Nature Nanotechnology*, 9 3:225-232. doi:10.1038/NNANO.2014.33 **IF=33.265**
47. Nielsen, Daniel S., Hoang, Huy N., Lohman, Rink-Jan, Hill, Timothy A., Lucke, Andrew J., Craik, David J., Edmonds, David J., Griffith, David A., Rottler, Charles J., Ruggeri, Roger B., Price, David A., Liras, Spiros and Fairlie, David P. (2014) Improving on nature: making a cyclic heptapeptide orally bioavailable. *Angewandte Chemie - International Edition*, 53 45: 12059-12063. doi:10.1002/anie.201405364 **IF=11.336**
48. Ng, Preston S. K., Boehm, Raphael, Hartley-Tassell, Lauren E., Steen, Jason A., Wang, Hui, Lukowski, Samuel W., Hawthorne, Paula L., Trezise, Ann E. O., Coloe, Peter J., Grimmond, Sean M., Haselhorst, Thomas, von Itzstein, Mark, Paton, Adrienne W., Paton, James C. and Jennings, Michael P. (2014) Ferrets exclusively synthesize Neu5Ac and express naturally humanized influenza A virus receptors. *Nature Communications*, 5. doi:10.1038/ncomms6750 **IF= 10.742**
49. Nones, Katia, Waddell, Nicola, Wayte, Nicci, Patch, Ann-Marie, Bailey, Peter, Newell, Felicity, Holmes, Oliver, Fink, J. Lynn, Quinn, Michael C. J., Tang, Yue Hang, Lampe, Guy, Quek, Kelly, Löffler, Kelly A., Manning, Suzanne, Idrisoglu, Senel, Miller, David, Xu, Qinying, Waddell, Nick, Wilson, Peter J., Bruxner, Timothy J. C., Christ, Angelika N., Harliwong, Ivon, Nourse, Craig, Nourbakhsh, Ehsan, Anderson, Matthew, Kazakoff, Stephen, Leonard, Conrad, Wood, Scott, Simpson, Peter T., Reid, Lynne E., Krause, Lutz, Hussey, Damian J., Watson, David I., Lord, Reginald V., Nancarrow, Derek, Phillips, Wayne A., Gotely, David, Smithers, B. Mark, Whiteman, David C., Hayward, Nicholas K., Campbell, Peter J., Pearson, John V., Grimmond, Sean M. and Barbour, Andrew P. (2014) Genomic catastrophes frequently arise in esophageal adenocarcinoma and drive tumorigenesis. *Nature Communications*, 5 5224.1-5224.9. doi:10.1038/ncomms6224 **IF=10.742**
50. Olalde, Inigo, Allentoft, Morten E., Sanchez-Quinto, Federico, Santpere, Gabriel, Chiang, Charleston W. K., DeGiorgio, Michael, Prado-Martinez, Javier, Rodriguez, Juan Antonio, Rasmussen, Simon, Quilez, Javier, Ramirez, Oscar, Marigorta, Urko M., Fernandez-Callejo, Marcos, Prada, Maria Encina, Encinas, Julio Manuel Vidal, Nielsen, Rasmus, Netea, Mihai G., Novembre, John, Sturm, Richard A., Sabeti, Pardis, Marques-Bonet, Tomas, Navarro, Arcadi, Willerslev, Eske and Lalueza-Fox, Carles (2014) Derived immune and ancestral pigmentation alleles in a 7,000-year-old Mesolithic European. *Nature*, 507 7491: 225-228. doi:10.1038/nature12960 **IF=42.351**
51. Ramasamy, Adaikalavan, Trabzuni, Daniah, Guelfi, Sebastian, Varghese, Vibin, Smith, Colin, Walker, Robert, De, Tisham, Coin, Lachlan, de Silva, Rohan, Cookson, Mark R., Singleton, Andrew B., Hardy, John, Rytén, Mina and Weale, Michael E. (2014) Genetic variability in the regulation of gene expression in ten regions of the human brain. *Nature Neuroscience*, 17 10: 1418-1428. doi:10.1038/nn.3801 **IF=14.976**
52. Reid, Robert C., Yau, Mei-Kwan, Singh, Ranee, Lim, Junxian and Fairlie, David P. (2014) Stereoelectronic effects dictate molecular conformation and biological function of heterocyclic amides. *Journal of the American Chemical Society*, 136 34: 11914-11917. doi:10.1021/ja506518t **IF=11.444**
53. Simons Cas, Rash, Lachlan D., Crawford, Joanna, Ma, Linlin, Cristofori-Armstrong, Ben, Miller, David, Ru, Kelin, Baillie, Gregory J., Alanay, Yasemin, Jacquinet, Adeline, Debray, François-Guillaume, Verloes, Alain, Shen, Joseph, Yesil, Gözde, Guler, Serhat, Yuksel, Adnan, Cleary, John G., Grimmond, Sean M., McGaughran, Julie, King, Glenn F., Gabbett, Michael T. and Taft, Ryan J. (2014) Mutations in the voltage-gated potassium channel gene KCNH1 cause Temple-Baraitser syndrome and epilepsy. *Nature Genetics*, doi:10.1038/ng.3153 **IF=29.648**
54. Short, Kieran M., Combes, Alexander N., Lefevre, James, Ju, Adler L., Georgas, Kylie M., Lamberton, Timothy, Cairncross, Oliver, Rumballe, Bree A., McMahon, Andrew P., Hamilton, Nicholas A., Smyth, Ian M. and Little, Melissa H. (2014) Global quantification of tissue dynamics in the developing mouse kidney. *Developmental Cell*, 29 2: 188-202. doi:10.1016/j.devcel.2014.02.017 **IF=10.366**
55. Tonge, Peter D., Corso, Andrew J., Monetti, Claudio, Hussein, Samer M. I., Puri, Mira C., Michael, Iacovos P., Li, Mira, Lee, Dong-Sung, Mar, Jessica C., Cloonan, Nicole, Wood, David L., Gauthier, Maely E., Korn, Othmar, Clancy, Jennifer L., Preiss, Thomas, Grimmond, Sean M., Shin, Jong-Yeon, Seo, Jeong-Sun, Wells, Christine A., Rogers, Ian M., Nagy, Andras. (2014) Divergent reprogramming routes lead to alternative stem-cell states. *Nature Volume: 516 Issue: 7530 Pages: 192+* **IF=42.351**
56. Undheim, Eivind, Jones, Alun, Clauser, Karl R., Holland, John W., Pineda Gonzalez, Sandy, King, Glenn F and Bryan Fry (2014) Clawing through evolution: toxin diversification and convergence in the ancient lineage Chilopoda (Centipedes). *Molecular Biology and Evolution*, 31 8: 2124-2148. doi:10.1093/molbev/msu162 **IF=14.308**
57. Wang, Conan K., King, Gordon J., Northfield, Susan E., Ojeda, Paola G. and Craik, David J. (2014) Racemic and quasi-racemic x-ray structures of cyclic disulfide-rich peptide drug scaffolds. *Angewandte Chemie - International Edition*, 53 42: 11236-11241. doi:10.1002/anie.201406563 **IF=11.336**
58. Weissmueller, Susann, Manchado, Eusebio, Saborowski, Michael, Morris IV, John P., Wagenblast, Elvin, Davis, Carrie A., Moon, Sung-Hwan, Pfister, Neil T., Tschaharganeh, Darjus F., Kitzing, Thomas, Aust, Daniela, Markert, Elke K., Wu, Jianmin, Grimmond, Sean M., Pilarsky, Christian, Prives, Carol, Biankin, Andrew V. and Lowe, Scott W. (2014) Mutant p53 drives pancreatic cancer metastasis through cell-autonomous PDGF receptor β signaling. *Cell*, 157 2: 382-394. doi:10.1016/j.cell.2014.01.066 **IF=33.116**
59. Williams, Simon J., Sohn, Kee Hoon, Wan, Li, Bernoux, Maud, Sarris, Panagiotis, Segonzac, Cecile, Ve, Thomas, Ma, Yan, Saucet, Simon B., Ericsson, Daniel J., Casey, Lachlan W., Lonhienne, Thierry, Winzor, Donald J., Zhang, Xiaoxiao, Coerd, Anne, Parker, Jane E., Dodds, Peter N., Kobe, Bostjan and Jones, Jonathan D. G. (2014) Structural basis for assembly and function of a heterodimeric plant immune receptor. *Science*, 344 6181: 299-303. doi:10.1126/science.1247357 **IF=31.477**
60. Wu, Selwin K., Gomez, Guillermo A., Michael, Magdalene, Verma, Suzie, Cox, Hayley L., Lefevre, James G., Parton, Robert G., Hamilton, Nicholas A., Neufeld, Zoltan and Yap, Alpha S. (2014) Cortical F-actin stabilization generates apical-lateral patterns of junctional contractility that integrate cells into epithelia. *Nature Cell Biology*, 16 2: 167-178. doi:10.1038/ncb2900 **IF=20.058**

A-Z publications

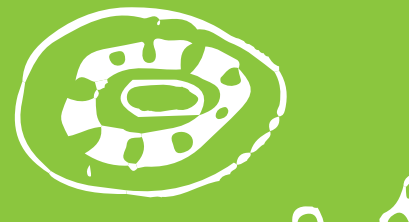
61. Acosta, Jamie Rae, Goldsbury, Claire, Winnick, Claire, Badrock, Andrew P., Fraser, Stuart T., Laird, Angela S., Hall, Thomas E., Don, Emily K., Fifita, Jennifer A., Blair, Ian P., Nicholson, Garth A. and Cole, Nicholas J. (2014) Mutant human FUS is ubiquitously mislocalized and generates persistent stress granules in primary cultured transgenic zebrafish cells. *PLOS ONE*, 9 6: e90572-e90572. doi:10.1371/journal.pone.0090572
62. Adolphe, Christelle, Nieuwenhuis, Erica, Villani, Rehan, Li, Zhu Juan, Kaur, Pritinder, Hui, Chichung and Wainwright, Brandon J. (2014) Patched 1 and Patched 2 redundancy has a key role in regulating epidermal differentiation. *Journal of Investigative Dermatology*, 134 7: 1981-1990. doi:10.1038/jid.2014.63
63. Ainger, Stephen A., Yong, Xuan L., Wong, Shu S., Skalamera, Dubravka, Gabrielli, Brian, Leonard, J. Helen and Sturm, Richard A. (2014) DCT protects human melanocytic cells from UVR and ROS damage and increases cell viability. *Experimental Dermatology*, 23 12: 916-921. doi:10.1111/exd.12574
64. Al-Ejeh F., Pajic M., Shi W., Kalimutho M., Miranda M., Nagrial A.M., Chou A., Biankin A.V., Grimmond S.M., Brown M.P. and Khanna K.K. (2014) Gemcitabine and CHK1 inhibition potentiate EGFR-directed radioimmunotherapy against pancreatic ductal adenocarcinoma. *Clinical Cancer Research*, 20 12: 3187-3197. doi:10.1158/1078-0432.CCR-14-0048
65. Alexandrov, Kirill and Johnston, Wayne A. (2014) Preface. In Kirill Alexandrov and Wayne A Johnston (Ed.), *Cell-Free Protein Synthesis: Methods and Protocols* (pp. V-V) New York, NY United States: Humana Press, Inc.
66. Ali, Syed A., Jackson, Timothy N., Casewell, Nicholas R., Low, Dolyce H.W., Rossi, Sarah, Baumann, Kate, Fathinia, Behzad, Visser, Jeroen, Nouwens, Amanda, Hendriks, Iwan, Jones, Alun and Fry, Bryan G. (2014) Extreme venom variation in Middle Eastern vipers: A proteomics comparison of *Eristicophis macmahonii*, *Pseudocerastes fieldi* and *Pseudocerastes persicus*. *Journal of Proteomics*, doi:10.1016/j.jprot.2014.09.003
67. Al-Zeer, Munir A., Al-Youndes, Hesham M., Kerr, Markus, Abu-Lubad, Mohammad, Gonzalez, Erik, Brinkmann, Volker and Meyer, Thomas F. (2014) Chlamydia trachomatis remodels stable microtubules to coordinate Golgi stack recruitment to the chlamydial inclusion surface. *Molecular Microbiology*, 94 6: 1285-1297. doi:10.1111/mmi.12829
68. Amin, Shorash, Prentis, Peter J., Gilding E.K. and Pavasovic, Ana (2014) Assembly and annotation of a non-model gastropod (*Nerita melanotragus*) transcriptome: a comparison of de novo assemblers. *BMC Research Notes*, 7 488: 1-8. doi:10.1186/1756-0500-7-488
69. Archbold, Julia K., Martin, Jennifer L. and Sweet, Matthew J. (2014) Towards selective lysophospholipid GPCR modulators. *Trends*



- in Pharmacological Sciences*, 35 5: 219-226. doi:10.1016/j.tips.2014.03.004
70. Archbold, Julia K., Whitten, Andrew E., Hu, Shu-Hong, Collins, Brett M. and Martin, Jennifer L. (2014) SNARE-ing the structures of Sec1/Munc18 proteins. *Current Opinion in Structural Biology*, 29 44-51. doi:10.1016/j.sbi.2014.09.003
 71. Ariotti, Nicholas, Fernández-Rojo, Manuel, Zhou, Yong, Hill, Michelle M., Rodkey, Travis L., Inder, Kerry L., Tanner, Lukas B., Wenk, Markus R., Hancock, John F. and Parton, Robert G. (2014) Caveolae regulate the nanoscale organization of the plasma membrane to remotely control Ras signaling. *Journal of Cell Biology*, 204 5: 777-792. doi:10.1083/jcb.201307055
 72. Astin J.W., Haggerty M.J.L., Okuda K.S., Le Guen L., Misa J.P., Tromp A., Hogan B.M., Crosier K.E. and Crosier P.S. (2014) Vegfd can compensate for loss of Vegfc in zebrafish facial lymphatic sprouting. *Development (Cambridge)*, 141 13: 2680-2690. doi:10.1242/dev.106591
 73. Banan, P., Lee, K. J., McClenahan, P., Jagirdar, K., Sturm, Richard A. and Soyer, H. Peter (2014) Dermoscopy, reflectance confocal microscopy and histopathology of a melanoma in situ from an individual homozygous for GSTP1*105Val/MC1R*92Met. *Australasian Journal of Dermatology*, doi:10.1111/ajd.12250
 74. Barry, Adrienne K., Tabdili, Hamid, Muhamed, Ismael, Wu, Jun, Shashikanth, Nitesh, Gomez, Guillermo A., Yap, Alpha S., Gottardi, Cara J., de Rooij, Johan, Wang, Ning and Leckband, Deborah E. (2014) alpha-Catenin cytomechanics: role in cadherin-dependent adhesion and mechanotransduction. *Journal of Cell Science, Advance Online Article* 8: 1-42. doi:10.1242/jcs.139014
 75. Baumann, Kate, Casewell, Nicholas R., Ali, Syed A., Jackson, Timothy N. W., Vetter, Irina, Dobson, James S., Cutmore, Scott C., Nouwens, Amanda, Lavergne, Vincent and Fry, Bryan G. (2014) A ray of venom: Combined proteomic and transcriptomic investigation of fish venom composition using barb tissue from the blue-spotted stingray (*Neotrygon kuhlii*). *Journal of Proteomics*, 109 188-198. doi:10.1016/j.jprot.2014.06.004
 76. Behrendorff, James B. Y. H., Johnston, Wayne A. and Gillam, Elizabeth M. J. (2014) Restriction Enzyme-Mediated DNA Family Shuffling. *Methods in Molecular Biology*, 1179 175-187. doi:10.1007/978-1-4939-1053-3_12
 77. Bellos, Evangelos and Coin, Lachlan J. M. (2014) cnvOffSeq: detecting intergenic copy number variation using off-target exome sequencing data. *Bioinformatics*, 30 17: i639-i645. doi:10.1093/bioinformatics/btu475
 78. Bellos, Evangelos, Kumar, Vikrant, Lin, Clarabelle, Maggi, Jordi, Yang Phua, Zai Yang, Cheng, Ching-Yu, Cheung, Chui Ming Gemmy, Hlibberd, Martin L., Wong, Tien Yin, Coin, Lachlan J. M. and Davila, Sonia (2014) cnvCapSeq: detecting copy number variation in long-range targeted resequencing data. *Nucleic Acids Research*, 42 20: doi:10.1093/nar/gku849
 79. Berecki, G., Daly, N. L., Huang, Y. H., Vink, S., Craik, D. J., Alewood, P. F. and Adams, D. J. (2014) Effects of arginine 10 to lysine substitution on omega-conotoxin CVIE and CVIF block of Ca(v)2.2 channels. *British Journal of Pharmacology*, 171 13: 3313-3327. doi:10.1111/bph.12686
 80. Berger, Joachim, Tarakci, Hakan, Berger, Silke, Li, Mei, Hall, Thomas E., Arner, Anders and Currie, Peter D. (2014) Loss of tropomodulin4 in the zebrafish mutant träge causes cytoplasmic rod formation and muscle weakness reminiscent of nemaline myopathy. *DMM Disease Models and Mechanisms*, 7 12: 1407-1415. doi:10.1242/dmm.017376
 81. Bhattacharya, Debashish, Price, Dana C., Chan, Cheong Xin, Gross, Jefferson, Steiner, Jürgen M. and Löffelhardt, Wolfgang (2014) Analysis of the genome of *Cyanophora paradoxa*: an algal model for understanding primary endosymbiosis. In Wolfgang Löffelhardt (Ed.), *Endosymbiosis* (pp. 135-148) Wien, Austria: Springer. doi:10.1007/978-3-7091-1303-5_7
 82. Bobby, Romel, Robustelli, Paul, Kralicek, Andrew V., Mobli, Mehdi, King, Glenn F., Grotzinger, Joachim and Dingley, Andrew J. (2014) Functional implications of large backbone amplitude motions of the glycoprotein 130-binding epitope of interleukin-6. *FEBS Journal*, 28110: 2471-2483. doi:10.1111/febs.12800
 83. Bonventre, Joseph V., Boulware, L. Ebony, Dember, Laura M., Freedman, Barry I., Furth, Susan L., Holzman, Lawrence B., Ketchum, Christian J., Little, Melissa H., Mehrotra, Rajnish, Moe, Sharon M., Sands, Jeff M., Sedor, John R., Somlo, Stefan, Star, Robert A., Rys-Sikora, Krystyna E. and Kidney Research National Dialogue (KRND) (2014) The Kidney Research National Dialogue: Gearing up to move forward. *Clinical Journal of the American Society of Nephrology*, 9 10: 1806-1811. doi:10.2215/CJN.07310714
 84. Boucher D., Duclos C. and Denault J.-B. (2014) General in vitro caspase assay procedures. *Methods in Molecular Biology*, 1133 3-39. doi:10.1007/978-1-4939-0357-3_1
 85. Bruno, Damien L., Ganesamoorthy, Devika, Thorne, Natalie P., Ling, Ling, Bahlo, Melanie, Forrest, Sue, Veenendaal, Marieke, Katerelos, Marina, Skene, Alison, Ierino, Frank L., Power, David A. and Slater, Howard R. (2014) Use of copy number deletion polymorphisms to assess DNA chimerism. *Clinical Chemistry*, 60 8: 1105-1114. doi:10.1373/clinchem.2013.216077
 86. Brust, Andreas and Cuny, Eckehard (2014) Reducing disaccharides and their 1,2-dicarbonyl intermediates as building blocks for nitrogen heterocycles. *RSC Advances*, 4 11:5759-5767. doi:10.1039/c3ra47349j
 87. Brust, Andreas, Schroeder, Christina I. and Alewood, Paul F. (2014) High-throughput synthesis of peptide alpha-thioesters: a safety catch linker approach enabling parallel hydrogen fluoride cleavage. *ChemMedChem*, 9 5: 1038-1046. doi:10.1002/cmdc.201300524
 88. Bugarcic, Andrea, Colthorpe, Kay, Farrand, Kirsten, Su, Hing Wee and Jackson, Kelly (2014) The development of undergraduate science students' scientific argument skills in oral presentations. *International Journal of Innovation in Science and Mathematics Education*, 22 5: 43-60.
 89. Bunn, Patrick T., Stanley, Amanda C., de Labastida Rivera, Fabian, Mulherin, Alexander, Sheel, Meru, Alexander, Clare E., Faleiro, Rebecca J., Amante, Fiona H., De Oca, Marcela Montes, Best, Shannon E., James, Kylie R., Kaye, Paul M., Haque, Ashraf and Engwerda, Christian R. (2014) Tissue requirements for establishing long-term CD4+ T cell-mediated immunity following *Leishmania donovani* infection. *Journal of Immunology*, 192 8: 3709-3718. doi:10.4049/jimmunol.1300768
 90. Butler, Mark S., Fontaine, Frank and Cooper, Matthew A. (2014) Natural product libraries: Assembly, maintenance, and screening. *Planta Medica*, 80 14: 1161-1170. doi:10.1055/s-0033-1360109
 91. Butler, Mark S., Hansford, Karl A., Blaskovich, Mark A. T., Halai, Reena and Cooper, Matthew A. (2014) Glycopeptide antibiotics: back to the future. *Journal of Antibiotics*, 67 9: 631-644. doi:10.1038/ja.2014.111
 92. Butler, Mark S., Towerzey, Leanne, Pham, Ngoc B., Hyde, Edward, Wadi, Sao Khemar, Guymy, Gordon P. and Quinn, Ronald J. (2014) Cardenolide Glycosides from *Elaeodendron australe* var. *integrifolium*. *Phytochemistry*, 98 160-163. doi:10.1016/j.phytochem.2013.11.024
 93. Cao, Xu, Ma, Linlin, Yang, Fan, Wang, KeWei and Zheng, Jie (2014) Divalent cations potentiate TRPV1 channel by lowering the heat activation threshold. *Journal of General Physiology*, 143 1: 75-90. doi:10.1085/jgp.201311025
 94. Caron, Bertrand, Mark, Alan E. and Poger, David (2014) Some like it hot: the effect of sterols and hopanoids on lipid ordering at high temperature. *Journal of Physical Chemistry Letters*, 5 22: 3953-3957. doi:10.1021/jz5020778
 95. Chan, Cheong Xin, Bernard, Guillaume, Poirion, Olivier, Hogan, James M. and Ragan, Mark A. (2014) Inferring phylogenies of evolving sequences without multiple sequence alignment. *Scientific Reports*, 4 e6504.1-e6504.9. doi:10.1038/srep06504
 96. Chandrananda D., Thorne N.P., Ganesamoorthy D., Bruno D.L., Benjamini Y., Speed T.P., Slater H.R. and Bahlo M. (2014) Investigating and correcting plasma DNA sequencing coverage bias to enhance aneuploidy discovery. *PLOS ONE*, 9 1: e86993.1-e86993.14. doi:10.1371/journal.pone.0086993
 97. Chang, Chiung-Wen, Williams, Simon J., Couñago, Rafael Miguez and Kobe, Bostjan (2014) Structural basis of interaction of bipartite nuclear localization signal from *Agrobacterium* VirD2 with rice importin- α . *Molecular Plant, Advance Access* 6: 1-10. doi:10.1093/mp/ssu014
 98. Chang, David K., Grimmond, Sean M. and Biankin, Andrew V. (2014) Pancreatic cancer genomics. *Current Opinion in Genetics and Development*, 24 1: 74-81. doi:10.1016/j.gde.2013.12.001
 99. Chang, Garry HK, Lay, Angelina J, Ting Ka Ka, Zhae, Yang, Coleman Paul R, Powter, Elizabeth E, Formaz-Preston, Ann, Jolly, Christopher J, Bower, Neil I, Hogan, Benjamin M, Rinkwitz, Silke, Becker, Thomas S, Vadas, Matthew A, Gamble, Jennifer R. (2014) ARHGAP18: an endogenous inhibitor of angiogenesis, limiting tip formation and stabilizing junctions *Small GTPases* 5:3 1-15 doi:10.4161/2154128.2014.975002
 100. Charan, Poonam, Woodrow, Nicole, Walker, Sue P., Ganesamoorthy, Devika, McGillivray, George and Palma-Dias, Ricardo (2014) High-resolution microarray in the assessment of fetal anomalies detected by ultrasound. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 54 1: 46-52. doi:10.1111/ajo.12170



101. Chen, Augustine, Beetham, Henry, Black, Michael A., Priya, Rashmi, Telford, Bryony J., Guest, Joanne, Wiggins, George A. R., Godwin, Tanis D., Yap, Alpha S. and Guilford, Parry J. (2014) E-cadherin loss alters cytoskeletal organization and adhesion in non-malignant breast cells but is insufficient to induce an epithelial-mesenchymal transition. *BMC Cancer*, 14 1: doi:10.1186/1471-2407-14-552
102. Chen, Kaiwen W., Groß, Christina J., Vasquez Sotomayor, Flor, Stacey, Kathryn J., Tschopp, Jurg, Sweet, Matthew J. and Schroder, Kate (2014) The Neutrophil NLR4 Inflammasome Selectively Promotes IL-1 β Maturation without Pyroptosis during Acute Salmonella Challenge. *Cell Reports*, 8 2: 570-582. doi:10.1016/j.celrep.2014.06.028
103. Chen, Kaiwen W., Richards, Ayanthi A., Zamoshnikova, Alina and Schroder, Kate (2014) Inflammasomes and inflammation. In Yusuke Hiraku, Shosuke Kawanishi and Hiroshi Ohshima (Ed.), *Cancer and Inflammation Mechanisms: Chemical, Biological, and Clinical Aspects* (pp.103-117) Hoboken, NJ, USA: John Wiley & Sons. doi:10.1002/9781118826621.ch8
104. Cheneval, Olivier, Schroeder, Christina I., Durek, Thomas, Walsh, Phillip, Huang, Yen-Hua, Liras, Spiros, Price, David A. and Craik, David J. (2014) Fmoc-based synthesis of disulfide-rich cyclic peptides. *Journal of Organic Chemistry*, 79 12: 5538-5544. doi:10.1021/jo500699m
105. Cheng, Mu, Huang, Johnny Xiao, Ramu, Soumya, Butler, Mark S. and Cooper, Matthew A. (2014) Ramoplanin at bactericidal concentrations induces bacterial membrane depolarization in *Staphylococcus aureus*. *Antimicrobial Agents and Chemotherapy*, 58 11: 6819-6827. doi:10.1128/AAC.00061-14
106. Cheng, Mu, Ziora, Zyta M., Hansford, Karl A., Blaskovich, Mark A., Butler, Mark S. and Cooper, Matthew A. (2014) Anti-cooperative ligand binding and dimerisation in the glycopeptide antibiotic dalbavancin. *Organic and Biomolecular Chemistry*, 12 16: 2568-2575. doi:10.1039/c3ob42428f
107. Chioccioli, Maurizio, Hankamer, Ben and Ross, Ian L. (2014) Flow cytometry pulse width data enables rapid and sensitive estimation of biomass dry weight in the microalgae *Chlamydomonas reinhardtii* and *Chlorella vulgaris*. *PLOS ONE*, 9 5: e97269.1-e97269.12. doi:10.1371/journal.pone.0097269
108. Church, Jeffrey S., Woodhead, Andrea L., Walker, Andrew A. and Sutherland, Tara D. (2014) A comparison of convergently evolved insect silks that share β -sheet molecular structure. *Biopolymers*, 101 6: 630-639. doi:10.1002/bip.22431
109. Choudhury, Hassanul G., Tong, Zhen, Mathavan, Indran, Li, Yanyan, Iwata, So, Zirah, Séverine, Rebuffat, Sylvie, Van Veen, Hendrik W. and Beis, Konstantinos (2014) Structure of an antibacterial peptide ATP-binding cassette transporter in a novel outward occluded state. *Proceedings of the National Academy of Sciences of the United States of America*, 111 25:9145-9150. doi:10.1073/pnas.1320506111
110. Combes, Alexander N., Short, Kieran M., Lefevre, James, Hamilton, Nicholas A., Little, Melissa H. and Smyth, Ian M. (2014) An integrated pipeline for the multidimensional analysis of branching morphogenesis. *Nature Protocols*, 9 12: 2859-2879. doi:10.1038/nprot.2014.193
111. Conibear, Anne C., Bochen, Alexander, Rosengren, K. Johan, Stupar, Petar, Wang, Conan, Kessler, Horst and Craik, David J. (2014) The cyclic cystine ladder of theta-defensins as a stable, bifunctional scaffold: a proof-of-concept study using the integrin-binding RGD motif. *ChemBioChem, Early View* 1-10. doi:10.1002/cbic.201300568
112. Conibear, Anne C., Wang, Conan K., Bi, Tao, Rosengren, K. Johan, Camarero, Julio A. and Craik, David J. (2014) Insights into the molecular flexibility of theta-defensins by NMR relaxation analysis. *Journal of Physical Chemistry B*, 118 49: 14257-14266. doi:10.1021/jp507754c
113. Coxam, Baptiste, Neyt, Christine, Grassini, Daniela R., Le Guen, Ludovic, Smith, Kelly A., Schulte-Merker, Stefan and Hogan, Benjamin M. (2014) carbamoyl-phosphate synthetase 2, aspartate transcarbamylase, and dihydroorotase (cad) regulates notch signaling and vascular development in zebrafish. *Developmental Dynamics*. doi:10.1002/DVDY.24209
114. Coxam, Baptiste, Sabine, Amelie, Bower, Neil I., Smith, Kelly A., Pichol-Thievend, Cathy, Skoczylas, Renae, Astin, Jonathan W., Frampton, Emmanuelle, Jaquet, Muriel, Crosier, Philip S., Parton, Robert G., Harvey, Natasha L., Petrova, Tatiana V., Schulte-Merker, Stefan, Francois, Mathias and Hogan, Benjamin M. (2014) Pkd1 regulates lymphatic vascular morphogenesis during development. *Cell Reports*, 7 3: 623-633. doi:10.1016/j.celrep.2014.03.063
115. Cremer, Julie E., Bean, Scott R., Tilley, Michael M., Ioerger, Brian P., Ohm, Jae B., Kaufman, Rhett C., Wilson, Jeff D., Innes, David J., Gilding, Edward K., Godwin, Ian D. (2014) Grain Sorghum Proteomics: Integrated Approach toward Characterization of Endosperm Storage Proteins in Kafirin Allelic Variants. *Journal of Agricultural and Food Chemistry* 62 (40) pp 9819-9831
116. Cremer, Julie E., Liu, Liman, Bean, Scott R., Ohm, Jae-Bom, Tilley, Michael, Wilson, Jeff D., Kaufman, Rhett C., Vu, Thanh H., Gilding, Edward K., Godwin, Ian D. and Wang, Donghai (2014) Impacts of kafirin allelic diversity, starch content, and protein digestibility on ethanol conversion efficiency in grain sorghum. *Cereal Chemistry*, 91 3: 218-227. doi:10.1094/CHEM-04-13-0068-R
117. Croker, Daniel E., Halai, Reena, Kaeslin, Geraldine, Wende, Elisabeth, Fehlhaber, Beate, Klos, Andreas, Monk, Peter N. and Cooper, Matthew A. (2014) C5a2 can modulate ERK1/2 signaling in macrophages via heteromer formation with C5a1 and beta-arrestin recruitment. *Immunology and Cell Biology*, 92 7: 631-639. doi:10.1038/icb.2014.32
118. Cuffe, J. S. M., Walton, S. L., Singh, R. R., Spiers, J. G., Bielefeldt-Ohmann, H., Wilkinson, L., Little, M. H. and Moritz, K. M. (2014) Mid- to late term hypoxia in the mouse alters placental morphology, glucocorticoid regulatory pathways and nutrient transporters in a sex-specific manner. *The Journal of Physiology*, 1-15. doi:10.1113/jphysiol.2014.272856
119. Cummings, Margaret C., Simpson, Peter T., Reid, Lynne E., Jayanthan, Janani, Skerman, Joanna, Song, Sarah, McCart Reed, Amy E., Kutasovic, Jamie R., Morey, Adrienne L., Marquart, Louise, O'Rourke, Peter and Lakhani, Sunil R. (2014) Metastatic progression of breast cancer: Insights from 50 years of autopsies. *Journal of Pathology*, 232 1: 23-31. doi:10.1002/path.4288
120. Delattin, Nicolas, De Brucker, Katrijn, Craik, David J., Cheneval, Olivier, De Coninck, Barbara, Cammue, Bruno P. A. and Thevissen, Karin (2014) Structure-activity relationship study of the plant-derived decapeptide OSIP108 inhibiting *Candida albicans* biofilm formation. *Antimicrobial Agents and Chemotherapy*, 58 8: 4974-4977. doi:10.1128/AAC.03336-14
121. Delattin, Nicolas, De Brucker, Katrijn, Craik, David J., Cheneval, Olivier, Frohlich, Mirjam, Veber, Matija, Girandon, Lenart, Davis, Tayla, R., Weeks, Anne E., Kumamoto, Carol A., Cos, Paul, Coenye, Tom, De Coninck, Barbara, Cammue, Bruno P. A. and Thevissen, Karin (2014) The plant-derived decapeptide OSIP108 interferes with *Candida albicans* biofilm formation without affecting cell viability. *Antimicrobial Agents and Chemotherapy*, 58 5: 2647-2656. doi:10.1128/AAC.01274-13
122. Deuis, Jennifer R., Lim, Yu Ling, Rodrigues de Sousa, Silmara, Lewis, Richard J., Alewood, Paul F., Cabot, Peter J. and Vetter, Irina (2014) Analgesic effects of clinically used compounds in novel mouse models of polyneuropathy induced by oxaliplatin and cisplatin. *Neuro-Oncology*, 16 10: 1324-1332. doi:10.1093/neuonc/nou048
123. Ding, Xiao-Bo, Furkert, Daniel P., Capon, Robert J. and Brimble, Margaret A. (2014) Total synthesis of heronapyrrole C. *Organic Letters*, 16 2: 378-381. doi:10.1021/ol403246j
124. Doan, Tram B., Eriksson, Natalie A., Graham, Dinny, Funder, John W., Simpson, Evan R., Kuczek, Elizabeth S., Clyne, Colin, Leedman, Peter J., Tilley, Wayne D., Fuller, Peter J., Muscat, George E. O. and Clarke, Christine L. (2014) Breast cancer prognosis predicted by nuclear receptor-coregulator networks. *Molecular Oncology*, 8 5: 998-1013. doi:10.1016/j.molonc.2014.03.017
125. Donovan, Prudence, Cato, Kathleen, Legaie, Roxane, Jayalath, Rimal, Olsson, Gemma, Hall, Bruce, Olson, Sarah, Boros, Samuel, Reynolds, Brent A. and Harding, Angus (2014) Hyperdiploid tumor cells increase phenotypic heterogeneity within Glioblastoma tumors. *Molecular Biosystems*, 10 4: 741-758. doi:10.1039/c3mb70484j
126. D'Souza, Charlotte, Troeira Henriques, Sonia, Wang, Conan K. and Craik, David J. (2014) Structural parameters modulating the cellular uptake of disulfide-rich cyclic cell-penetrating peptides: MCoTI-II and SFTI-1. *European Journal of Medicinal Chemistry*. doi:10.1016/j.ejmech.2014.06.047
127. Duprez, Wilko, Premkumar, Lakshmanane, Halili, Maria A., Lindahl, Fredrik, Reid, Robert C., Fairlie, David P. and Martin, Jennifer L. (2014) Peptide inhibitors of the *Escherichia coli* DsbA oxidative machinery essential for bacterial virulence. *Journal of Medicinal Chemistry*. doi:10.1021/jm500955s
128. Dutertre, Sebastien, Jin, Ai-Hua, Alewood, Paul F. and Lewis, Richard J. (2014) Intraspecific variations in *Conus geographus* defence-evoked venom and estimation of the human lethal dose. *Toxicon*, 91 135-144. doi:10.1016/j.toxicon.2014.09.011
129. Dyrka, Witold, Lamacchia, Marina, Durrens, Pascal, Kobe, Bostjan, Daskalov, Asen, Paoletti, Matthieu, Sherman, David J. and Saupe, Sven J. (2014) Diversity and variability of NOD-like receptors in fungi. *Genome Biology and Evolution*. doi:10.1093/gbe/evu251



130. Eggers, Stefanie, Smith, Katherine R., Bahlo, Melanie, Looijenga, Leendert H. J., Drop, Stenvert L. S., Juniarto, Zulfa A., Harley, Vincent R., Koopman, Peter, Faradz, Sultana M. H. and Sinclair, Andrew H. (2014) Whole exome sequencing combined with linkage analysis identifies a novel 3 bp deletion in NR5A1. *European Journal of Human Genetics*, doi:10.1038/ejhg.2014.130
131. Eijkelkamp, Bart A., Morey, Jacqueline R., Ween, Miranda P., Ong, Cheryl-lynn Y., McEwan, Alastair G., Paton, James C. and McDevitt, Christopher A. (2014) Extracellular zinc competitively inhibits manganese uptake and compromises oxidative stress management in streptococcus pneumoniae. *PLOS ONE*, 9 2: doi:10.1371/journal.pone.0089427
132. Elliott, Alysha G., Delay, Christina, Liu, Huanle, Phua, Zaiyang, Rosengren, K. Johan, Benfield, Aurelie H., Panero, Jose L., Colgrave, Michelle L., Jayasena, Achala S., Dunse, Kerry M., Anderson, Marilyn A., Schilling, Edward E., Ortiz-Barrientos, Daniel, Craik, David J. and Mylne, Joshua S. (2014) Evolutionary origins of a bioactive peptide buried within preproalbumin. *The Plant Cell*, 26 3: 981-995. doi:10.1105/tpc.114.123620
133. Fang, Weiguo, Lu, Hsiao-Ling, King, Glenn F and St. Leger, Raymond J. (2014) Construction of a hypervirulent and specific mycoinsecticide for locust control. *Scientific Reports*, 4 7345.1-7345.6. doi:10.1038/srep07345
134. Farrugia, Michelle, Trotter, Nicholas, Vijayarathay, Soumini, Salim, Angele A., Khalil, Zeinab G., Lacey, Ernest and Capon, Robert J. (2014) Isolation and synthesis of N-acyladenine and adenosine alkaloids from a southern Australian marine sponge, *Phoriospongia* sp. *Tetrahedron Letters*, 55 43: 5902-5904. doi:10.1016/j.tetlet.2014.08.116
135. Fensterseifer I.C.M., Silva O.N., Malik U., Ravipati A.S., Novaes N.R.F., Miranda P.R.R., Rodrigues E.A., Moreno S.E., Craik D.J. and Franco O.L. (2014) Effects of cyclotides against cutaneous infections caused by *Staphylococcus aureus*. *Peptides*, 63 38-42. doi:10.1016/j.peptides.2014.10.019
136. Frentiu, Francesca D., Zakir, Tasnim, Walker, Thomas, Popovici, Jean, Pyke, Alyssa T., van den Hurk, Andrew, McGraw, Elizabeth A. and O'Neill, Scott L. (2014) Limited dengue virus replication in field-collected *Aedes aegypti* mosquitoes infected with *Wolbachia*. *PLOS Neglected Tropical Diseases*, 8 2: e2688.1-e2688.10. doi:10.1371/journal.pntd.0002688
137. Gallon, Matthew, Clairfeuille, Thomas, Steinberg, Florian, Mas, Caroline, Ghai, Rajesh, Sessions, Richard B., Teasdale, Rohan D., Collins, Brett M. and Cullen, Peter J. (2014) A unique PDZ domain and arrestin-like fold interaction reveals mechanistic details of endocytic recycling by SNX27-retromer. *Proceedings of the National Academy of Sciences of the United States of America*, 111 35: E3604-E3613. doi:10.1073/pnas.1410552111
138. Gambin, Yann, Ariotti, Nicholas, McMahon, Kerrie-Ann, Bastiani, Michele, Sieracki, Emma, Kovtun, Oleksiy, Polinkovsky, Mark E., Magenau, Astrid, Jung, WooRam, Okano, Satomi, Zhou, Yong, Leneva, Natalya, Mureev, Sergey, Johnston, Wayne, Gaus, Katharina, Hancock, John F., Collins, Brett M., Alexandrov, Kirill and Parton, Robert G. (2014) Single-molecule analysis reveals self assembly and nanoscale segregation of two distinct cavin subcomplexes on caveolae. *eLife*, e01434.1-e01434.18. doi:10.7554/eLife.01434
139. Gardner, A. M. The Told World. Bristol, United Kingdom: Shearsman Books Ltd, 2014
140. Gardner, A. M. Thing and Unthing. Sydney: Vagabond Press, 2014
141. Gaze, Soraya, Driguez, Patrick, Pearson, Mark S., Mendes, Tiago, Doolan, Denise L., Trieu, Angela, McManus, Donald P., Gobert, Geoffrey N., Periago, Maria Victoria, Correa Oliveira, Rodrigo, Cardoso, Fernanda C., Oliveira, Guilherme, Nakajima, Rie, Jasinskas, Al, Hung, Chris, Liang, Li, Pablo, Jozelyn, Bethony, Jeffrey M., Felgner, Philip L. and Loukas, Alex (2014) An immunomics approach to schistosome antigen discovery: antibody signatures of naturally resistant and chronically infected individuals from endemic areas. *PLOS Pathogens*, 10 3: e1004033.1-e1004033.16. doi:10.1371/journal.ppat.1004033
142. Ghaffar, Khairunnisa Abdul, Hussein, Waleed M., Khalil, Zeinab G., Capon, Robert J., Skwarczynski, Mariusz and Toth, Istvan (2014) Levofloxacin and indolicidin for combination antimicrobial therapy. *Current Drug Delivery*, doi:10.2174/1567201811666140910094050
143. Ghai, Rajesh, Tello-Lafoz, Maria, Norwood, Suzanne J., Yang, Zhe, Clairefeuille, Thomas, Teasdale, Rohan D., Mérida, Isabel and Collins, Brett M. (2014) Phosphoinositide binding by the SNX27 FERM domain regulates localisation at the immune synapse of activated T-cells. *Journal of Cell Science*, doi:10.1242/jcs.158204
144. Graham, Janet S., Jamieson, Nigel B., Rulach, Robert, Grimmond, Sean M., Chang, David K. and Biankin, Andrew V. (2014) Pancreatic cancer genomics: where can the science take us? *Clinical Genetics, Accepted Manuscript online*. doi:10.1111/cge.12536
145. Gray J.M., Harmin D.A., Boswell S.A., Cloonan N., Mullen T.E., Ling J.J., Miller N, Kuersten S, Ma Y.C., McCarroll S.A., Grimmond S.M. & Springer M. (2014) SnapShot-Seq: a method for extracting genome-wide, in vivo mRNA dynamics from a single total RNA sample. *PLOS ONE*, 9 2:e89673. doi: 10.1371/journal.pone.0089673
146. Greenhill, Claire J., Jones, Gareth W., Nowell, Mari A., Newton, Zarabeth, Harvey, Ann K., Moideen, Abdul N., Collins, Fraser L., Bloom, Anja C., Coll, Rebecca C., Robertson, Avril A. B., Cooper, Matthew A., Rosas, Marcela, Taylor, Philip R., O'Neill, Luke A., Humphreys, Ian R., Williams, Anwen S. and Jones, Simon A. (2014) Interleukin-10 regulates the inflammasome-driven augmentation of inflammatory arthritis and joint destruction. *Arthritis Research and Therapy*, 16 4: doi:10.1186/s13075-014-0419-y
147. Grewe, Sabrina, Ballottari, Matteo, Alcocer, Marcelo, D'Andrea, Cosimo, Blifernez-Klassen, Olga, Hankamer, Ben, Mussnug, Jan H., Bassi, Roberto and Kruse, Olaf (2014) Light-harvesting complex protein LHCBM9 is critical for photosystem II activity and hydrogen production in *Chlamydomonas reinhardtii*. *Plant Cell*, 26 4: 1598-1611. doi:10.1105/tpc.114.124198
148. Gui, Junhong, Liu, Boyi, Cao, Guan, Lipchik, Andrew M., Perez, Minervo, Dekan, Zoltan, Mobli, Mehdi, Daly, Norelle L., Alewood, Paul F., Parker, Laurie L., King, Glenn F., Zhou, Yufeng, Jordt, Sven-Eric and Nitabach, Michael N. (2014) A tarantula-venom peptide antagonizes the TRPA1 nociceptor ion channel by binding to the S1-S4 gating domain. *Current Biology*, 24 5: 473-483. doi:10.1016/j.cub.2014.01.013
149. Günther Oliver P., Shin Heesun, Ng Raymond T., McMaster W. Robert, McManus Bruce M., Keown Paul A., Tebbutt Scott. J., and Lê Cao Kim-Anh. (2014) Novel Multivariate Methods for Integration of Genomics and Proteomics Data: Applications in a Kidney Transplant Rejection Study. *OMICS: A Journal of Integrative Biology* 18(11): 682-695. doi:10.1089/omi.2014.0062.
150. Gupta, Gagan D., Dey, Gautam, M.G., Swetha, Ramalingam, Balaji, Shameer, Khader, Thottacherry, Joseph Jose, Kalappurakkal, Joseph Mathew, Howes, Mark T., Chandran, Ruma, Das, Anupam, Menon, Sindhu, Parton, Robert G., Sowdhamini, R., Thattai, Mukund and Mayor, Satyajit (2014) Population distribution analyses reveal a hierarchy of molecular players underlying parallel endocytic pathways. *PLOS ONE*, 9 6: e100554.1-e100554.19. doi:10.1371/journal.pone.0100554
151. Halai, Reena, Bellows-Peterson, Meghan L., Branchett, Will, Smadbeck, James, Kieslich, Chris A., Croker, Daniel E., Cooper, Matthew A., Morikis, Dimitrios, Woodruff, Trent M., Floudas, Christodoulos A. and Monk, Peter N. (2014) Derivation of ligands for the complement C3a receptor from the C-terminus of C5a. *European Journal of Pharmacology*, 745 176-181. doi:10.1016/j.ejphar.2014.10.041
152. Han, Siew Ping, Gambin, Yann, Gomez, Guillermo A., Verma, Suzie, Giles, Nichole, Michael, Magdalene, Wu, Selwin K., Guo, Zhong, Johnston, Wayne, Sieracki, Emma, Parton, Robert G., Alexandrov, Kirill and Yap, Alpha S. (2014) Cortactin scaffolds Arp2/3 and WAVE2 at the epithelial zonula adherens. *Journal of Biological Chemistry*, 289 11: 7764-7775. doi:10.1074/jbc.M113.544478
153. Hardy, Margaret C. (2014) Resistance is not futile: it shapes insecticide discovery. *Insects*, 5 1: 227-242. doi:10.3390/insects5010227
154. Hardy, Margaret C., Cochrane, Jonathon and Allavena, Rachel E. (2014) Venomous and Poisonous Australian Animals of Veterinary Importance: A Rich Source of Novel Therapeutics. *Biomed Research International*, Article ID 671041: 1-12. doi:10.1155/2014/671041
155. Harris, Lachlan, Genovesi, Laura A., Gronostajski, Richard M., Wainwright, Brandon J. and Piper, Michael (2014) Nuclear factor one transcription factors: divergent functions in developmental versus adult stem cell populations. *Developmental Dynamics*, doi:10.1002/dvdy.24182
156. Harrison, Rosemary S., Shepherd, Nicholas E., Hoang, Huy N., Beyer, Renee L., Ruiz-Gomez, Gloria, Kelso, Michael J., Mei Kok, W., Hill, Timothy A., Abbenante, Giovanni and Fairlie, David P. (2014) Helical cyclic pentapeptides constrain HIV-1 Rev peptide for enhanced RNA binding. *Tetrahedron*, 70 42: 7645-7650. doi:10.1016/j.tet.2014.07.096
157. Hayes, R. Andrew, Piggott, Andrew M., Smith, Timothy E. and Nahrung, Helen F. (2014) *Corymbia* phloem phenolics, tannins and terpenoids: Interactions with a cerambycid borer. *Chemoecology*, 24 3: 95-103. doi:10.1007/s00049-014-0153-6
158. Heng, Yee Hsieh Evelyn, McLeay, Robert C., Harvey, Tracey J., Smith, Aaron G., Barry, Guy,



- Cato, Kathleen, Plachez, Celine, Little, Erica, Mason, Sharon, Dixon, Chantelle, Gronostajski, Richard M., Bailey, Timothy L., Richards, Linda J. and Piper, Michael (2014) NFIX regulates neural progenitor cell differentiation during hippocampal morphogenesis. *Cerebral Cortex*, 24 1: 261-279. doi:10.1093/cercor/bhs307
159. Henriques, Sonia Troeira, Huang, Yen-Hua, Chaoasis, Steph, Wang, Conan and Craik, David J. (2014) Anticancer and toxic properties of cyclotides are dependent on phosphatidylethanolamine phospholipid targeting. *Chembiochem*, 15 13: 1956-1965. doi:10.1002/cbic.201402144
160. Heras, Begona, Scanlon, Martin J. and Martin, Jennifer L. (2014) Targeting virulence not viability in the search for future antibacterials. *British Journal of Clinical Pharmacology*, doi:10.1111/bcp.12356
161. Heras, Begona, Totsika, Makrina, Peters, Kate M., Paxman, Jason J., Gee, Christine L., Jarrott, Russell J., Perugini, Matthew A., Whitten, Andrew E. and Schembri, Mark A. (2014) The antigen 43 structure reveals a molecular Velcro-like mechanism of autotransporter-mediated bacterial clumping. *Proceedings of the National Academy of Sciences of the United States of America*, 111 1: 457-462. doi:10.1073/pnas.1311592111
162. Herzig, Volker, Bende, Niraj S., Alam, Md. Shohidul, Tedford, H. William, Kennedy, Robert M. and King, Glenn F. (2014) Methods for deployment of spider venom peptides as bioinsecticides. *Advances in Insect Physiology*, 47 389-411. doi:10.1016/B978-0-12-800197-4.00008-7
163. Heus F., Otvos R.A., Aspers R.L.E.G., van Elk R., Half J.I., Ehlers A.W., Dutertre S., Lewis R.J., Wijmenga S., Smit A.B., Niessen W.M.A. and Kool J. (2014) Miniaturized bioaffinity assessment coupled to mass spectrometry for guided purification of bioactives from toad and cone snail. *Biology*, 3 1: 139-156. doi:10.3390/biology3010139
164. Hill, Timothy A., Lohman, Rink-Jan, Hoang, Huy N., Nielsen, Daniel S., Scully, Conor C. G., Kok, W. Mei, Liu, Ligong, Lucke, Andrew J., Stoermer, Martin J., Schroeder, Christina I., Chaoasis, Stephanie, Colless, Barbara, Bernhardt, Paul V., Edmonds, David J., Griffith, David A., Rotter, Charles J., Ruggeri, Roger B., Price, David A., Liras, Spiros, Craik, David J. and Fairlie, David P. (2014) Cyclic penta- and hexaleucine peptides without N-methylation are orally absorbed. *ACS Medicinal Chemistry Letters*, 5 10: 1148-1151. doi:10.1021/ml5002823
165. Hilton, Heidi N., Doan, Tram B., Dinny Graham, J., Oakes, Samantha R., Silvestri, Audrey, Santucci, Nicole, Kantimm, Silke, Huschtscha, Lily I., Ormandy, Christopher J., Funder, John W., Simpson, Evan R., Kuczek, Elizabeth S., Leedman, Peter J., Tilley, Wayne D., Fuller, Peter J., Muscat, George E. and Clarke, Christine L. (2014) Acquired convergence of hormone signaling in breast cancer: ER and PR transition from functionally distinct in normal breast to predictors of metastatic disease. *Oncotarget*, 5 18: 8651-8664
166. Hoenen, Antje, Gillespie, Leah, Morgan, Garry, van der Heide, Peter, Khromykh, Alexander and Mackenzie, Jason (2014) The West Nile virus assembly process evades the conserved antiviral mechanism of the interferon-induced MxA protein. *Virology*, 448 104-116. doi:10.1016/j.virol.2013.10.005
167. Hofmann, Andreas and Whitten, Andrew E. (2014) Two practical Java software tools for small-angle X-ray scattering analysis of biomolecules. *Journal of Applied Crystallography*, 472: 810-815. doi:10.1107/S1600576714004737
168. Holland, John W., Boland, Mike J. (2014) Chapter 5 – Post-translational Modifications of Caseins in *Milk Proteins (Second Edition) From Expression to Food A Volume in Food Science and Technology* pp141-168 doi:10.1016/B978-0-12-405171-3.00005-2
169. Hollenberg, M. D., Mihara, K., Polley, D., Suen, J. Y., Han, A., Fairlie, D. P. and Ramachandran, R. (2014) Biased signalling and proteinase-activated receptors (PARs): Targeting inflammatory disease. *British Journal of Pharmacology*, 171 5: 1180-1194. doi:10.1111/bph.12544
170. Hopping, Gene, Wang, C-I Anderson, Hogg, Ron C., Nevin, Simon T., Lewis, Richard J., Adams, David J. and Alewood, Paul F. (2014) Hydrophobic residues at position 10 of α -conotoxin PnIA influence subtype selectivity between $\alpha 7$ and $\alpha 3\beta 2$ neuronal nicotinic acetylcholine receptors. *Biochemical Pharmacology*, 91 4: 534-542. doi:10.1016/j.bcp.2014.07.025
171. Huang, Johnny X., Blaskovich, Mark A. and Cooper, Matthew A. (2014) Cell- and biomarker-based assays for predicting nephrotoxicity. *Expert Opinion on Drug Metabolism and Toxicology*, 10 12: 1621-1635. doi:10.1517/17425255.2014.967681
172. Huang, Xiao-Cong, Xiao, Xue, Zhang, Yun-Kai, Talele, Tanaji T., Salim, Angela A., Chen, Zhe-Sheng and Capon, Robert J. (2014) Lamellarin O, a pyrrole alkaloid from an Australian marine sponge, *lanthella* sp., reverses BCRP mediated drug resistance in cancer cells. *Marine Drugs*, 12 7: 3818-3837. doi:10.3390/md12073818
173. Hudson, Nicholas J., Porto-Neto, Laercio R., Kijas, James, McWilliam, Sean, Taft, Ryan J. and Reverter, Antonio (2014) Information compression exploits patterns of genome composition to discriminate populations and highlight regions of evolutionary interest. *BMC Bioinformatics*, 15 Article ID.66: . doi:10.1186/1471-2105-15-66
174. Hughes, Ian, Harris, Mark, Cotterill, Andrew, Garnett, Sarah, Bannink, Ellen, Pennell, Craig, Sly, Peter, Leong, Gary M., Cowell, Chris, Ambler, Geoff, Werther, George, Hofman, Paul, Cutfield, Wayne and Choong, Catherine S. (2014) Comparison of Centers for Disease Control and Prevention and World Health Organization references/standards for height in contemporary Australian children: analyses of the Raine Study and Australian National Children's Nutrition and Physical Activity cohorts. *Journal of Paediatrics and Child Health*, 1-7. doi:10.1111/jpc.12672
175. Humphris, Jeremy L., Johns, Amber L., Simpson, Skye H., Cowley, Mark J., Pajic, Marina, Chang, David K., Nagrial, Adnan M., Chin, Vanessa T., Chantrell, Lorraine A., Pinese, Mark, Mead, R. Scott, Gill, Anthony J., Samra, Jaswinder S., Kench, James G., Musgrove, Elizabeth A., Tucker, Katherine M., Spigelman, Allan D., Waddell, Nic, Grimmond, Sean M., Biankin, Andrew V. and The Australian Pancreatic Cancer Genome Initiative (2014) Clinical and pathologic features of familial pancreatic cancer. *Cancer*, 120 23: 3669-3675. doi:10.1002/cncr.28863
176. Hunt, David, Leverter, Richard J., Simons, Cas, Taft, Ryan, Swodboda, Kathryn J., Gwan-Cain, Mary, The DDD study, Magee, Alex C., Turnpenny, Peter D. and Baralle, Diana (2014) Whole exome sequencing in family trios reveals de novo mutations in PURA as a cause of severe neurodevelopmental delay and learning disability. *Journal of Medical Genetics*, 51 12:806-813. doi:10.1136/jmedgenet-2014-102798
177. Inder, Kerry L., Ruelcke, Jayde E., Petelin, Lara, Moon, Hyeongsun, Choi, Eunju, Rae, James, Blumenthal, Antje, Hutmacher, Dietmar, Saunders, Nicholas A., Stow, Jennifer L., Parton, Robert G. and Hill, Michelle M. (2014) Cavin-1/PTRF alters prostate cancer cell-derived extracellular vesicle content and internalization to attenuate extracellular vesicle-mediated osteoclastogenesis and osteoblast proliferation. *Journal of Extracellular Vesicles*, 3 23784.1-23784.14. doi:10.3402/jev.v3.23784
178. Jackson M.A., Sternes P.R., Mudge S.R., Graham M.W. and Birch R.G. (2014) Design rules for efficient transgene expression in plants. *Plant Biotechnology Journal*, 12 7: 925-933. doi:10.1111/pbi.12197
179. Jagirdar, Kasturee, Smit, Darren J., Ainger, Stephen A., Lee, Katie J., Brown, Darren L., Chapman, Brett, Zhao, Zhen Zhen, Montgomery, Grant W., Martin, Nicholas G., Stow, Jennifer L., Duffy, David L. and Sturm, Richard A. (2014) Molecular analysis of common polymorphisms within the human Tyrosinase locus and genetic association with pigmentation traits. *Pigment Cell and Melanoma Research*, 27 4: 552-564. doi:10.1111/pcmr.12253
180. Jamieson, Nigel Balfour, Chang, David K., Grimmond, Sean M. and Biankin, Andrew V. (2014) Can we move towards personalised pancreatic cancer therapy? *Expert Review of Gastroenterology and Hepatology*, 8 4: 335-338. doi:10.1586/17474124.2014.893820
181. Jensen, Jonas E., Cristofori-Armstrong, Ben, Anangi, Raveendra, Rosengren, K. Johan, Lau, Carus H. Y., Mobli, Mehdi, Brust, Andreas, Alewood, Paul F., King, Glenn F. and Rash, Lachlan D. (2014) Understanding the Molecular Basis of Toxin Promiscuity: The Analgesic Sea Anemone Peptide APETx2 Interacts with Acid-Sensing Ion Channel 3 and hERG Channels via Overlapping Pharmacophores. *Journal of Medicinal Chemistry*, 57 21: 9195-9203. doi:10.1021/jm501400p
182. Jesupret, Clémence, Baumann, Kate, Jackson, Timothy N. W., Ali, Syed Abid, Yang, Daryl C., Greisman, Laura, Kern, Larissa, Steuten, Jessica, Jouiaei, Mahdokht, Casewell, Nicholas R., Undheim, Eivind A. B., Koludarov, Ivan, Debono, Jordan, Low, Dolyce H. W., Rossi, Sarah, Panagides, Nadya, Winter, Kelly, Ignjatovic, Vera, Summerhayes, Robyn, Jones, Alun, Nouwens, Amanda, Dunstan, Nathan, Hodgson, Wayne C., Winkel, Kenneth D., Monagle, Paul and Fry, Bryan Grieg (2014) Vintage venoms: proteomic and pharmacological stability of snake venoms stored for up to eight decades. *Journal of Proteomics*, 105 285-294. doi:10.1016/j.jpro.2014.01.004
183. Jia, Husen, Dwyer, Simon A., Fan, Da-Yong, Han, Yaqin, Badger, Murray R., von Caemmerer, Susanne and Chow, Wah Soon (2014) A novel P700 redox kinetics probe for rapid, non-invasive and whole-tissue determination of photosystem II functionality, and the stoichiometry of the two photosystems in vivo. *Physiologia Plantarum*, 152 3: 403-413. doi:10.1111/pp.12235
184. Jia, Xinying, Kwon, Soohyun, Wang, Ching-I Anderson, Huang, Yen-Hua, Chan, Lai Y., Tan,



- Chia Chia, Rosengren, K. Johan, Mulvenna, Jason P., Schroeder, Christina I. and Craik, David J. (2014) Semienzymatic cyclization of disulfide-rich peptides using sortase A. *Journal of Biological Chemistry, Papers in Press* 10: 1-25. doi:10.1074/jbc.M113.539262
185. Jia, Xinying, Schulte, Leigh, Loukas, Alex, Pickering, Darren, Pearson, Mark, Mobli, Mehdi, Jones, Alun, Rosengren, Karl J., Daly, Norelle L., Gobert, Geoffrey N., Jones, Malcolm K., Craik, David J. and Mulvenna, Jason (2014) Solution structure, membrane interactions and protein binding partners of the tetraspanin Sm-TSP-2, a vaccine antigen from the human blood fluke *Schistosoma mansoni*. *Journal of Biological Chemistry, Papers in Press* 10: 1-26. doi:10.1074/jbc.M113.531558
186. Jia, ZhiGuang, Ghai, Rajesh, Collins, Brett M. and Mark, Alan E. (2014) The recognition of membrane-bound PtdIns3P by PX domains. *Proteins: structure, function, and bioinformatics*. doi:10.1002/prot.24593
187. Jin, Ai-Hua, Vetter, Irina, Dutertre, Sébastien, Abraham, Nikita, Emidio, Nayara B., Insera, Marco, Murali, Swetha S., Christie, MacDonald J., Alewood, Paul F. and Lewis, Richard J. (2014) MrlC, a novel alpha-conotoxin agonist in the presence of PNU at endogenous alpha-7 nicotinic acetylcholine receptors. *Biochemistry*, 53 1: 1-3. doi:10.1021/bi400882s
188. Johns A.L., Miller D.K., Simpson S.H., Gill A.J., Kassahn K.S., Humphris J.L., Samra J.S., Tucker K., Andrews L., Chang D.K., Waddell N., Pajic M., Pearson J.V., Grimmond S.M., Biankin A.V., Zeps N., Martyn-Smith M., Tang H., Papangelis V. and Beilin M. (2014) Returning individual research results for genome sequences of pancreatic cancer. *Genome Medicine*, 6 5. doi:10.1186/gm558
189. Johnston, Wayne A. and Alexandrov, Kirill (2014). Production of eukaryotic cell-free lysate from *Leishmania tarentolae*. In Kirill Alexandrov, Wayne A. Johnston and John M. Walker (Ed.), *Cell-Free Protein Synthesis: Methods and Protocols* (pp. 1-15) New York, NY, United States: Humana Press. doi:10.1007/978-1-62703-782-2
190. Kaas, Quentin and Craik, David J. (2014) Conotoxins and other conopeptides. In Stéphane La Barre and Jean-Michel Kornprobst (Ed.), *Outstanding Marine Molecules: Chemistry, Biology, Analysis* (pp. 319-332) Weinheim, Germany: Wiley-VCH Verlag. doi:10.1002/9783527681501.ch14
191. Kahler, Bill, Mistry, Sonali, Moule, Alex, Ringsmuth, Andrew K., Case, Peter, Thomson, Andrew and Holcombe, Trevor (2014) Revascularization outcomes: a prospective analysis of 16 consecutive cases. *Journal of Endodontics*, 40 3: 333-338. doi:10.1016/j.joen.2013.10.032
192. Kalia, Jeet, Milescu, Mirela, Salvatierra, Juan, Wagner, Jordan, Klint, Julie K., King, Glenn F., Olivera, Baldomero M. and Bosmans, Frank (2014) From foe to friend: using animal toxins to investigate ion channel function. *Journal of Molecular Biology*, doi:10.1016/j.jmb.2014.07.027
193. Kameda, Tsunenori, Walker, Andrew A. and Sutherland, Tara D. (2014) Evolution and application of coiled coil silks from insects. In Tetsuo Asakura and Thomas Miller (Ed.), *Biotechnology of silk* (pp. 87-106) Dordrecht The Netherlands: Springer. doi:10.1007/978-94-007-7119-2_5
194. Karas, John A., Scanlon, Denis B., Forbes, Briony E., Vetter, Irina, Lewis, Richard J., Gardiner, James, Separovic, Frances, Wade, John D. and Hossain, Mohammed A. (2014) 2-nitroveratryl as a photocleavable thiol-protecting group for directed disulfide bond formation in the chemical synthesis of insulin.. *Chemistry: A European Journal*, 20 31: 9549-9552. doi:10.1002/chem.201403574
195. Kent, Stephen B. H. and Alewood, Paul F. (2014) Editorial overview: Synthetic Biomolecules. *Current Opinion in Chemical Biology*, 22 VIII-XI. doi:10.1016/j.cbpa.2014.09.037
196. Kerr, Markus and Teasdale, Rohan D. (2014) Live imaging of endosome dynamics. *Seminars in Cell and Developmental Biology*, 31 11-19. doi:10.1016/j.semcdb.2014.03.027
197. Khalil, Zeinab G., Huang, Xiao-cong, Raju, Ritesh, Piggott, Andrew M. and Capon, Robert J. (2014) Shornephine A: structure, chemical stability, and P-Glycoprotein inhibitory properties of a rare Diketomorpholine from an Australian marine-derived *Aspergillus* sp. *Journal of Organic Chemistry*, 79 18: 8700-8705. doi:10.1021/jo501501z
198. Khalil, Zeinab G., Kalansuriya, Pabasara and Capon, Robert J. (2014) Lipopolysaccharide (LPS) stimulation of fungal secondary metabolism. *Mycology*, 5 3: 168-178. doi:10.1080/21501203.2014.930530
199. Khalil, Zeinab G., Salim, Angela A., Lacey, Ernest, Blumenthal, Antje and Capon, Robert J. (2014) Wollamides: antimycobacterial cyclic hexapeptides from an Australian soil *Streptomyces*. *Organic Letters*, 16 19: 5120-5123. doi:10.1021/ol502472c
200. King, Glenn F. (2014) The future of venoms-based drug discovery: an interview with Glenn King. *Future Medicinal Chemistry*, 6 15: 1613-1615. doi:10.4155/FMC.14.102
201. King, Glenn F. and Vetter, Irina (2014) No gain, no pain: Nav1.7 as an analgesic target. *ACS Chemical Neuroscience*, Articles ASAP 9: 749-751. doi:10.1021/cn500171p
202. King, Nathan P., Newton, Patrice, Schuelein, Ralf, Brown, Darren L., Petru, Marketa, Zarsky, Vojtech, Dolezal, Pavel, Luo, Lin, Bugarcic, Andrea, Stanley, Amanda C., Murray, Rachael Z., Collins, Brett M., Teasdale, Rohan D., Hartland, Elizabeth L. and Stow, Jennifer L. (2014) SNARE molecular mimicry by a *Legionella pneumophila* Dot/Icm effector. *Cellular Microbiology, Accepted manuscript*. doi:10.1111/cmi.12405
203. Klint, Julie K., Berecki, Géza, Durek, Thomas, Mobli, Mehdi, Knapp, Oliver, King, Glenn F., Adams, David J., Alewood, Paul F. and Rash, Lachlan D. (2014) Isolation, synthesis and characterization of omega-TRTX-Cc1a, a novel tarantula venom peptide that selectively targets L-type CaV channels. *Biochemical Pharmacology*, 89 2: 276-286. doi:10.1016/j.bcp.2014.02.008
204. Koludarov, Ivan, Jackson, Timothy N. W., Sunagar, Kartik, Nouwens, Amanda, Hendriks, Iwan and Fry, Bryan G. (2014) Fossilized venom: the unusually conserved venom profiles of heloderma species (beaded lizards and gila monsters). *Toxins*, 6 12: 3582-3595. doi:10.3390/toxins6123582
205. Kopan, Raphael, Chen, Shuang and Little, Melissa (2014) Nephron Progenitor Cells. Shifting the Balance of Self-Renewal and Differentiation. *Current Topics in Developmental Biology*, 107 293-331. doi:10.1016/B978-0-12-416022-4.00011-1
206. Kotturi, Santosh R., Somanadhan, Brinda, Ch'Ng, Jun-Hong, Tan, Kevin S.-W., Butler, Mark S. and Lear, Martin J. (2014) Diverted total synthesis of falcitidin acyl tetrapeptides as new antimalarial leads. *Tetrahedron Letters*, 55 11: 1949-1951. doi:10.1016/j.tetlet.2014.02.008
207. Koulis, Christine, Chen, Yung-Chih, Hausding, Christian, Ahrens, Ingo, Kyaw, Tin Soe, Tay, Christopher, Allen, Terri, Jandeleit-Dahm, Karin, Sweet, Matthew J., Akira, Shizuo, Bobik, Alexander, Peter, Karlheinz and Agrotis, Alex (2014) Protective role for toll-like receptor-9 in the development of atherosclerosis in apolipoprotein e-deficient mice. *Arteriosclerosis, Thrombosis, and Vascular Biology*, 34 3: 516-525. doi:10.1161/ATVBAHA.113.302407
208. Koziara, Katarzyna B., Stroet, Martin, Malde, Alpekshkumar K. and Mark, Alan E. (2014) Testing and validation of the Automated Topology Builder (ATB) version 2.0: prediction of hydration free enthalpies. *Journal of Computer-Aided Molecular Design*, 28 3: 221-233. doi:10.1007/s10822-014-9713-7
209. Kuchana, Rajani, Mamidyala, Sreeman K. and Mereyala, Hari Babu (2014) Synthesis of novel xylofuranosyloxymethyl nucleosides. *Oriental Journal of Chemistry*, 30 2: 409-418. doi:10.13005/ojc/300202
210. Kurth, Fabian, Duprez, Wilko, Premkumar, Lakshmanane, Schembri, Mark A., Fairlie, David P. and Martin, Jennifer L. (2014) Crystal Structure of the Dithiol Oxidase DsbA Enzyme from *Proteus Mirabilis* Bound Non-covalently to an Active Site Peptide Ligand. *Journal of Biological Chemistry*, 289 28: 19810-19822. doi:10.1074/jbc.M114.552380
211. Kwa, Mei Qi, Huynh, Jennifer, Aw, Jiamin, Zhang, Liany, Nguyen, Thao, Reynolds, Eric C., Sweet, Matthew J., Hamilton, John A. and Scholz, Glen M. (2014) Receptor-interacting protein kinase 4 and interferon regulatory factor 6 function as a signaling axis to regulate keratinocyte differentiation. *Journal of Biological Chemistry*, 289 45: 31077-31087. doi:10.1074/jbc.M114.589382
212. Kwa M.Q., Nguyen T., Huynh J., Ramnath D., De Nardo D., Lam P.Y., Reynolds E.C., Hamilton J.A., Sweet M.J. and Scholz G.M. (2014) Interferon regulatory factor 6 differentially regulates toll-like receptor 2-dependent chemokine gene expression in epithelial cells. *Journal of Biological Chemistry*, 289 28: 19758-19768. doi:10.1074/jbc.M114.584540
213. Legendijk, Anne Karine, Yap, Alpha S. and Hogan, Benjamin M. (2014) Endothelial cell-cell adhesion during zebrafish vascular development. *Cell Adhesion and Migration*, 8 2: 136-145. doi:10.4161/cam.28229
214. Lajoie, Mathieu, Hsu, Yu-Chih, Gronostajski, Richard M. and Bailey, Timothy L. (2014) An overlapping set of genes is regulated by both NFIB and the glucocorticoid receptor during lung maturation. *BMC Genomics*, 15 1: doi:10.1186/1471-2164-15-231
215. Lamberton T.O., Condon N.D., Stow J.L. and Hamilton N.A. (2014) On linear models and parameter identifiability in experimental biological systems. *Journal of Theoretical Biology*, 358 102-121. doi:10.1016/j.jtbi.2014.05.028



216. Larney, Christian, Bailey, Timothy L. and Koopman, Peter (2014) Switching on sex: transcriptional regulation of the testis-determining gene *Sry*. *Development (Cambridge)*, 14111: 2195-2205. doi:10.1242/dev.107052
217. Lau, Han Yih, Palanisamy, Ramkumar, Trau, Matt and Botella, Jose R. (2014) Molecular inversion probe: a new tool for highly specific detection of plant pathogens. *PLOS ONE*, 9 10:e111182.1-e111182.9. doi:10.1371/journal.pone.0111182
218. Lau, P., Tuong, Z. K., Wang, S. C., Fitzsimmons, R. L., Goode, J., Thomas, G. P., Cowin, G. J., Pearen, M. A., Mardon, K., Stow, J. L. and Muscat, G. E. O. (2014) Ror-alpha deficiency and decreased adiposity are associated with induction of thermogenic gene expression in subcutaneous white and brown adipose tissue. *American Journal of Physiology: Endocrinology and Metabolism*, doi:10.1152/ajpendo.00056.2014
219. Lavergne, Vincent, King, Glenn F., Lewis, Richard J. and Alewood, Paul F. (2014) Peptide therapeutics from venomous creatures. In Charlotte Allerton (Ed.), *Pain therapeutics: current and future treatment paradigms* (pp. 217-246) London, United Kingdom: Royal Society of Chemistry. doi:10.1039/9781849737715-00217
220. Lay, Fung T., Poon, Simon, McKenna, James A., Connelly, Angela A., Barbata, Barbara L., McGinness, Bruce S., Fox, Jennifer L., Daly, Norelle L., Craik, David J., Heath, Robyn L. and Anderson, Marilyn A. (2014) The C-terminal propeptide of a plant defensin confers cytoprotective and subcellular targeting functions. *BMC Plant Biology*, 14 1: 41.1-41.13. doi:10.1186/1471-2229-14-41
221. Le Cao, Kim-Anh, Rohart, Florian, McHugh, Leo, Korn, Othmar and Wells, Christine A (2014) YuGene: A simple approach to scale gene expression data derived from different platforms for integrated analyses. *Genomics*, 103 4: 239-251. doi:10.1016/j.ygeno.2014.03.001
222. Leerberg, Joanne M., Gomez, Guillermo A., Verma, Suzie, Moussa, Elliott J., Wu, Selwin K., Priya, Rashmi, Hoffman, Brenton D., Grashoff, Carsten, Schwartz, Martin A. and Yap, Alpha S. (2014) Tension-sensitive actin assembly supports contractility at the epithelial zonula adherens. *Current Biology*, 24 15: 1689-1699. doi:10.1016/j.cub.2014.06.028
223. Lesluyes, Tom, Johnson, James, Machanick, Philip and Bailey, Timothy L. (2014) Differential motif enrichment analysis of paired ChIP-seq experiments. *BMC Genomics*, 15 752:1-13. doi:10.1186/1471-2164-15-752
224. Lewis, Richard J., Vetter, Irina, Cardoso, Fernanda C., Inerra, Marco and King, Glenn (available online 2014) Does nature do ion channel drug discovery better than us? In Brian Cox and Martin Gosling (Ed.), *Ion channel drug discovery* (pp. 297-313) Cambridge, United Kingdom: Royal Society of Chemistry. doi:10.1039/9781849735087-00297
225. Lin, Min-Hsuan, Sivakumaran, Haran, Jones, Alun, Li, Dongsheng, Harper, Callista, Wei, Ting, Jin, Hongping, Rustanti, Lina, Meunier, Frederic A., Spann, Kirsten, Harrich, David (2014) A HIV-1 Tat mutant protein disrupts HIV-1 Rev function by targeting the DEAD-box RNA helicase DDX1. *Retrovirology* Volume: 11
226. Liu, Chao, Srihari, Sriganesh, Le Cao, Kim-Anh, Chenevix-Trench, Georgia, Simpson, Peter T., Ragan, Mark A. and Khanna, Kum Kum (2014) A fine-scale dissection of the DNA double-strand break repair machinery and its implications for breast cancer therapy. *Nucleic Acids Research*, 42 10: 6106-6127. doi:10.1093/nar/gku284
227. Liu, Xuyu, Becker, Bernd and Cooper, Matthew A. (2014) Monoacetylation of carbohydrate diols via transesterification with ethyl acetate. In: Research Front: 34th Australasian Polymer Symposium. Proceedings. 34APS: 34th Australasian Polymer Symposium 2013, Darwin, NT, Australia, (679-683). 7-10 July 2013. doi:10.1071/CH12518
228. Lonhienne, Thierry, Mason, Michael G., Ragan, Mark A., Hugenholtz, Philip, Schmidt, Susanne and Paungfoo-Lonhienne, Chanyarat (2014) Yeast as a biofertilizer alters plant growth and morphology. *Crop Science*, 54 2: 785-790. doi:10.2135/cropsci2013.07.0488
229. Luo, Sulan, Zhangsun, Dongting, Schroeder, Christina I., Zhu, Xiaopeng, Hu, Yuanan, Wu, Yong, Weltzin, Maegan M., Eberhard, Spencer, Kaas, Quentin, Craik, David J., McIntosh, J. Michael and Whiteaker, Paul (2014) A novel alpha4/7-conotoxin LvlA from *Conus lividus* that selectively blocks alpha3 beta2 vs. alpha6/alpha3 beta2 beta3 nicotinic acetylcholine receptors. *FASEB Journal, Early Edition* 4: 1-12. doi:10.1096/fj.13-244103
230. Lybaek, Helle, de Bruijn, Diederik, den Engelsman-van Dijk, Anke H. A., Vanichkina, Darya, Nepal, Chirag, Brendehaug, Atle and Houge, Gunnar (2014) RevSex duplication-induced and sex-related differences in the SOX9 regulatory region chromatin landscape in human fibroblasts. *Epigenetics*, 9 3: 416-427. doi:10.4161/epi.27474
231. Ma, Linlin, Lee, Bo Hyun, Mao, Rongrong, Cai, Anping, Jia, Yunfang, Clifton, Heather, Schaefer, Saul, Xu, Lin and Zheng, Jie (2014) Nicotinic acid activates the capsaicin receptor TRPV1: potential mechanism for cutaneous flushing. *Arteriosclerosis, Thrombosis, and Vascular Biology*, 34 6: 1272-1280. doi:10.1161/ATVBAHA.113.303346
232. Ma, Linlin, Yang, Fan and Zheng, Jie (2014) Application of fluorescence resonance energy transfer in protein studies. *Journal of Molecular Structure*, 1077 87-100. doi:10.1016/j.molstruc.2013.12.071
233. Ma W., Noble W.S. and Bailey T.L. (2014) Motif-based analysis of large nucleotide data sets using MEME-ChIP. *Nature Protocols*, 9 6: 1428-1450. doi:10.1038/nprot.2014.083
234. Mace, Emma, Tai, Shuaishuai, Innes, David, Godwin, Ian, Hu, Wushu, Campbell, Bradley, Gilding, Edward, Cruickshank, Alan, Prentis, Peter, Wang, Jun and Jordan, David (2014) The plasticity of NBS resistance genes in sorghum is driven by multiple evolutionary processes. *BMC Plant Biology*, 14 253.1-253.14. doi:10.1186/s12870-014-0253-z
235. Madhamshettiwar, Piyush B., Maetschke, Stefan R., Davis, Melissa J., Reverter, Antonio and Ragan, Mark A. (2014) INSPeCT: Integrative Platform for Cancer Transcriptomics. *Cancer Informatics*, 13 59-66. doi:10.4137/CIN.S13630
236. Maetschke, Stefan R., Madhamshettiwar, Piyush B., Davis, Melissa J. and Ragan, Mark A. (2014) Supervised, semi-supervised and unsupervised inference of gene regulatory networks. *Briefings in Bioinformatics*, 15 2: 195-211. doi:10.1093/bib/bbt034
237. Maetschke, Stefan R. and Ragan, Mark A. (2014) Characterizing cancer subtypes as attractors of Hopfield networks. *Bioinformatics*, 30 9: 1273-1279. doi:10.1093/bioinformatics/btt773
238. Mahatmanto, Tunjung, Poth, Aaron, Mylne, Joshua S. and Craik, David J. (2014) A comparative study of extraction methods reveals preferred solvents for cystine knot peptide isolation from *Momordica cochinchinensis* seeds. *Fitoterapia*, 95 22-33.
239. Makino, Asami, Abe, Mitsuhiro, Murate, Motohide, Inaba, Takehiko, Yilmaz, Neval, Hullin-Matsuda, Francoise, Kishimoto, Takuma, Schieber, Nicole L., Taguchi, Tomohiko, Arai, Hiroyuki, Anderluh, Gregor, Parton, Robert G. and Kobayashi, Toshihide (2014) Visualization of the heterogeneous membrane distribution of sphingomyelin associated with cytokinesis, cell polarity, and sphingolipidosis. *The FASEB Journal*, doi:10.1096/fj.13-247585
240. Markmiller, Sebastian, Cloonan, Nicole, Lardelli, Rea M., Doggett, Karen, Keightley, Maria-Cristina, Boglev, Yeliz, Trotter, Andrew J., Ng, Annie Y., Wilkins, Simon J., Verkade, Heather, Ober, Elke A., Field, Holly A., Grimmond, Sean M., Lieschke, Graham J., Stainier, Didier Y. R. and Heath, Joan K. (2014) Minor class splicing shapes the zebrafish transcriptome during development. *Proceedings of the National Academy of Sciences of the United States of America*, 111 8: 3062-3067. doi:10.1073/pnas.1305536111
241. Martin, Sally, Papadopoulos, Andreas, Tomatis, Vanesa M., Sierecki, Emma, Malintan, Nancy T., Gormal, Rachel S., Giles, Nichole, Johnston, Wayne A., Alexandrov, Kirill, Gambin, Yann, Collins, Brett M. and Meunier, Frederic A. (2014) Increased polyubiquitination and proteasomal degradation of a Munc18-1 disease-linked mutant causes temperature-sensitive defect in exocytosis. *Cell Reports*, 9 1: 206-218. doi:10.1016/j.celrep.2014.08.059
242. Mas, Caroline, Norwood, Suzanne J., Bugarcic, Andrea, Kinna, Genevieve, Leneva, Natalya, Kovtun, Oleksiy, Ghai, Rajesh, Yanez, Lorena E. Ona, Davis, Jasmine L., Teasdale, Rohan D. and Collins, Brett M. (2014) Structural basis for different phosphoinositide specificities of the PX domains of sorting nexins regulating G-protein signaling. *Journal of Biological Chemistry*, 289 41: 28554-28568. doi:10.1074/jbc.M114.595959
243. Mattei, Cesar, Vetter, Irina, Eisenblatter, Anneka, Krock, Bernd, Ebbecke, Martin, Desel, Herbert and Zimmermann, Katharina (2014) Ciguatera fish poisoning: a first epidemic in Germany highlights an increasing risk for European countries. *Toxicon*, 91 76-83. doi:10.1016/j.toxicon.2014.10.016
244. Mavromatis, Charalampos (Harris), Bokil, Nilesh J., Totsika, Makrina, Kakkanat, Asha, Schaale, Kolja, Cannistraci, Carlo V., Ryu, Taewoo, Beatson, Scott A., Ulett, Glen C., Schembri, Mark A., Sweet, Matthew J. and Ravasi, Timothy (2014) The co-transcriptome of uropathogenic *Escherichia coli*-infected mouse macrophages reveals new insights into host-pathogen interactions. *Cellular Microbiology*, doi:10.1111/cmi.12397
245. Mayor S., Parton R.G. and Donaldson J.G. (2014) Clathrin-independent pathways of endocytosis.



- Cold Spring Harbor Perspectives in Biology*, 6 6: doi:10.1101/cshperspect.a016758
246. McClenahan, Phil, Lin, Lynlee L., Tan, Jean-Marie, Flewell-Smith, Ross, Schaidler, Helmut, J agirdar, Kasturee, Atkinson, Victoria, Lambie, Duncan, Prow, Tari W., Sturm, Richard A. and Soyer, Peter (2014) BRAFV600E Mutation Status of Involuting and Stable Nevi in Dabrafenib Therapy with or without Trametinib. *JAMA Dermatology*, 150 10: 1079-1082. doi:10.1001/jamadermatol.2014.436
 247. McInerney-Leo, Aideen, Harris, Jessica E., Leo, Paul, Marshall, Mhairi, Gardiner, Brooke, Kinning, Esther, Leong, Huey Yin, McKenzie, Fiona, Ong, Pei Tee, Vodopietz, Julia, Wicking, Carol A., Brown, Matthew A., Zanki, Andreas and Duncan, Emma (2014) Whole exome sequencing is an efficient, sensitive and specific method for determining the genetic cause of short-rib thoracic dystrophies. *Clinical Genetics*, doi:10.1111/cge.12550
 248. McMahon, Róisín M., Premkumar, Lakshmanane and Martin, Jennifer L. (2014) Four structural subclasses of the antiviral drug target disulfide oxidoreductase DsbA provide a platform for design of subclass-specific inhibitors. *Biochimica et Biophysica Acta: Proteins and Proteomics, In Press, Uncorrected Proof* 8: 1-11. doi:10.1016/j.bbapap.2014.01.013
 249. Medvedeva, Yulia A., Khamis, Abdullah M., Kulakovskiy, Ivan V., Ba-Alawi, Wail, Bhuyan, Md Shariful I., Kawaji, Hideya, Lassmann, Timo, Harbers, Matthias, Forrest, Alistair R. R., Bajic, Vladimir B., The FANTOM Consortium, Beckhouse, Anthony, Fearnley, Liam, Hitchens, Kelly, Kenna, Tony, Le Cao, Kim-Anh, Mason, Elizabeth, Nielsen, Lars, Vijayan, Dipti, Wells, Christine and Wolvetang, Ernst (2014) Effects of cytosine methylation on transcription factor binding sites. *BMC Genomics*, 15 119: 1-12. doi:10.1186/1471-2164-15-119
 250. Mehdi A.M., Patrick R., Bailey T.L. and Boden M. (2014) Predicting the dynamics of protein abundance. *Molecular and Cellular Proteomics*, 135: 1330-1340. doi:10.1074/mcp.M113.033076
 251. Melian, Ezequiel Balmori, Hall-Mendelin, Sonja, Du, Fangyao, Owens, Nick, Bosco-Lauth, Angela M., Nagasaki, Tomoko, Rudd, Stephen, Brault, Aaron C., Bowen, Richard A., Hall, Roy A., van den Hurk, Andrew F. and Khromykh, Alexander A. (2014) Programmed ribosomal frameshift alters expression of West Nile virus genes and facilitates virus replication in birds and mosquitoes. *PLoS Pathogens*, 10 11: e1004447.1-e1004447.18. doi:10.1371/journal.ppat.1004447
 252. Menzies M., Seim I., Josh P., Nagaraj S.H., Lees M., Walpole C., Chopin L.K., Colgrave M. and Ingham A. (2014) Cloning and tissue distribution of novel splice variants of the ovine ghrelin gene. *BMC Veterinary Research*, 10 1: doi:10.1186/s12917-014-0211-x
 253. Mercer, Tim R., Clark, Michael B., Crawford, Joanna, Brunck, Marion E., Gerhardt, Daniel J., Taft, Ryan J., Nielsen, Lars K., Dinger, Marcel E. and Mattick, John S. (2014) Targeted sequencing for gene discovery and quantification using RNA CaptureSeq. *Nature Protocols*, 95: 989-1009. doi:10.1038/nprot.2014.058
 254. Michael, Magdalene, Begum, Rumena, Fong, Kenneth, Pourryone, Celine, South, Andrew P., McGrath, John A. and Parsons, Maddy (2014) BPAG1-e restricts keratinocyte migration through control of adhesion stability. *Journal of Investigative Dermatology*, 134 3:773-782. doi:10.1038/jid.2013.382
 255. Miller, David K., Menezes, Minal J., Simons, Cas, Riley, Lisa G., Cooper, Sandra T., Grimmond, Sean M., Thorburn, David R., Christodoulou, John and Taft, Ryan J. (2014) Rapid identification of a novel complex I MT-ND3 m.10134C>A mutation in a Leigh syndrome patient. *PLOS ONE*, 9 8: e104879.1-e104879.6. doi:10.1371/journal.pone.0104879
 256. Moalem, S., Brouillard, P., Kuypers, D., Legius, E., Harvey, E., Taylor, G., Francois, M., Vikkula, M. and Chitayat, D. (2014) Hypotrichosis-lymphedema-telangiectasia-renal defect associated with a truncating mutation in the SOX18 gene. *Clinical Genetics*, doi:10.1111/cge.12388
 257. Mollica, Adriano, Costante, Roberto, Novellino, Ettore, Stefanucci, Azzurra, Pieretti, Stefano, Zador, Ferenc, Samavati, Reza, Borsodi, Anna, Benyhe, Sandor, Vetter, Irina and Lewis, Richard J. (2014) Design, synthesis and biological evaluation of two opioid agonist and Cav2.2 blocker multitarget ligands. *Chemical Biology and Drug Design*, doi:10.1111/cbdd.12479
 258. Mond, Michael, Alexiadis, Maria, Eriksson, Natalie, Davis, Melissa J., Muscat, George E. O., Fuller, Peter J. and Gilfillan, Christopher (2014) Nuclear receptor expression in human differentiated thyroid tumors. *Thyroid*, 24 6: 1000-1011. doi:10.1089/thy.2013.0509
 259. Mooney, Jane E., Summers, Kim M., Gongora, Milena, Grimmond, Sean M., Campbell, Julie H., Hume, David A. and Rolfe, Barbara E. (2014) Transcriptional switching in macrophages associated with the peritoneal foreign body response. *Immunology and Cell Biology*, 92 6: 518-526. doi:10.1038/icb.2014.19
 260. Moore, Thomas, Wu, Selwin, Michael, Magdalene, Yap, Alpha S.K., Gomez, Guillermo A. and Neufeld, Zoltan (2014) Self-organizing actomyosin patterns on the cell cortex of epithelial cell-cell junctions. *Biophysical Journal*, 107 11: 2652-2661. doi:10.1016/j.bpj.2014.10.045
 261. Motakis, Efthymios, Guhl, Sven, Ishizu, Yuri, Itoh, Masayoshi, Kawaji, Hideya, de Hoon, Michiel, Lassmann, Timo, Carninci, Piero, Hayashizaki, Yoshihide, Zuberbier, Torsten, Forrest, Alistair R. R., Babina, Magda, for The FANTOM Consortium, Wells, Christine and Wolvetang, Ernst (2014) Redefinition of the human mast cell transcriptome by deep-CAGE sequencing. *Blood*, 123 17: 58-67. doi:10.1182/blood-2013-02-483792
 262. Murali, S., Napier I, Mohammadi S, Alewood P, Lewis R, Christie M. High-voltage activated calcium current subtypes in mouse DRG neurons adapt in a subpopulation-specific manner following nerve injury. *Accepted Journal of Neurophysiology* Dec 4 2014
 263. Murray, Rachael Zoe and Stow, Jennifer Lea (2014) Cytokine secretion in macrophages: SNAREs, Rabs, and membrane trafficking. *Frontiers in Immunology*, 5 Article 538: doi:10.3389/fimmu.2014.00538
 264. Nones, Katia, Waddell, Nic, Song, Sarah, Patch, Ann-Marie, Miller, David, Johns, Amber, Wu, Jianmin, Kassahn, Karin S., Wood, David, Bailey, Peter, Fink, Lynn, Manning, Suzanne, Christ, Angelika N., Nourse, Craig, Kazakoff, Stephen, Taylor, Darrin, Leonard, Conrad, Chang, David K., Jones, Marc D., Thomas, Michelle, Watson, Clare, Pinese, Mark, Cowley, Mark, Rooman, Ilse, Pajic, Marina, Butturini, Giovanni, Malpaga, Anna, Corbo, Vincenzo, Crippa, Stefano, Falconi, Massimo, Zamboni, Giuseppe, Castelli, Paola, APGI, Lawlor, Rita T., Gill, Anthony J., Scarpa, Aldo, Pearson, John V., Biankin, Andrew V. and Grimmond, Sean M. (2014) Genome-wide DNA methylation patterns in pancreatic ductal adenocarcinoma reveal epigenetic deregulation of SLIT-ROBO, ITGA2 and MET signaling. *International Journal of Cancer*, 2014 5: 1110-1118. doi:10.1002/ijc.28765
 265. Northfield, Susan E., Poth, Aaron, D'Souza, Charlotte and Craik, David J. (2014) Cyclotide analysis. In Robert A. Meyers (Ed.), *Encyclopedia of Analytical Chemistry* (pp. 1-18) Hoboken, NJ, USA: John Wiley & Sons. doi:10.1002/9780470027318.a9933
 266. Northfield, Susan E., Wang, Conan K., Schroeder, Christina I., Durek, Thomas, Kan, Meng-Wei, Swedberg, Joakim E. and Craik, David J. (2014) Disulfide-rich macrocyclic peptides as templates in drug design. *European Journal of Medicinal Chemistry*, 77 2: 248-257. doi:10.1016/j.ejmech.2014.03.011
 267. Obayed Ullah, M., Valkov, Eugene, Ve, Thomas, Williams, Simon, Mas, Caroline, Mansell, Ashley and Kobe, Bostjan (2014) Recombinant production of functional full-length and truncated human TRAM/TICAM-2 adaptor protein involved in toll-like receptor and interferon signaling. *Protein Expression and Purification*, 106 31-40. doi:10.1016/j.pep.2014.09.019
 268. O'Brien, Aidan and Bailey, Timothy L. (2014) GT-Scan: identifying unique genomic targets. *Bioinformatics*, 30 18: 2673-2675. doi:10.1093/bioinformatics/btu354
 269. O'Connor, Timothy R. and Bailey, Timothy L. (2014) Creating and validating cis-regulatory maps of tissue-specific gene expression regulation. *Nucleic Acids Research*, 42 17: 11000-11010. doi:10.1093/nar/gku801
 270. Oey, Melanie, Ross, Ian L. and Hankamer, Ben (2014) Gateway-assisted vector construction to facilitate expression of foreign proteins in the chloroplast of single celled algae. *PLOS ONE*, 9 2: doi:10.1371/journal.pone.0086841
 271. Oh, Tae Gyu, Bailey, Peter, Dray, Eloise, Smith, Aaron G., Goode, Joel, Eriksson, Natalie, Fuller, John W., Fuller, Peter J., Simpson, Evan R., Tilley, Wayne D., Leedman, Peter J., Clarke, Christine L., Grimmond, Sean, Dowhan, Dennis H. and Muscat, George E. O. (2014) PRMT2 and ROR α expression are associated with breast cancer survival outcomes. *Molecular Endocrinology*, 28 7: 1166-1185. doi:10.1210/me.2013-1403
 272. Ojeda, Paola G., Chan, Lai Y., Poth, Aaron G., Wang, Conan K. and Craik, David J. (2014) The role of disulfide bonds in structure and activity of chlorotoxin. *Future Medicinal Chemistry*, 6 15: 1617-1628. doi:10.4155/FMC.14.93
 273. O'Mara, Megan L. and Mark, Alan E. (2014) Structural characterization of two metastable ATP-bound states of P-glycoprotein. *PLOS ONE*, 9 3: e91916.1-e91916.14. doi:10.1371/journal.pone.0091916
 274. Palmer, Colin J., Galan-Cardidad, Jose M., Weisberg, Stuart P., Lei, Liang, Esquelin, Jose M., Croft, Gist F., Wainwright, Brandon, Canoll, Peter, Owens, David M. and Reizis, Boris (2014) Zfx facilitates tumorigenesis caused by activation



- of the hedgehog pathway. *Cancer Research*, 7420: 5914-5924. doi:10.1158/0008-5472.CAN-14-0834
275. Parks, Donovan H., Tyson, Gene W., Hugenholtz, Philip and Beiko, Robert G. (2014) STAMP: Statistical analysis of taxonomic and functional profiles. *Bioinformatics*, 30 21: 3123-3124. doi:10.1093/bioinformatics/btu494
276. Patrick, Ralph, Lê Cao, Kim-Anh, Kobe, Bostjan and Bodén, Mikael (2014) PhosphoPICK: modelling cellular context to map kinase-substrate phosphorylation events. *Bioinformatics*, doi:10.1093/bioinformatics/btu663
277. Pattabiraman, Diwakar R., McGirr, Crystal, Shakhbazov, Konstantin, Barbier, Valerie, Krishnan, Keerthana, Mukhopadhyay, Pamela, Hawthorne, Paula, Trezise, Ann, Ding, Jianmin, Grimmond, Sean M., Papathanasiou, Peter, Alexander, Warren S., Perkins, Andrew C., Levesque, Jean-Pierre, Winkler, Ingrid G. and Gonda, Thomas J. (2014) Interaction of c-Myb with p300 is required for the induction of acute myeloid leukemia (AML) by human AML oncogenes. *Blood*, 123 17: 2682-2690. doi:10.1182/blood-2012-02-413187
278. Paulsen, B. S., Craik, D. J., Dunstan, D. E., Stone, B. A. and Bacic, A. (2014) The Yaviv reagent: behaviour in different solvents and interaction with a gum arabic arabinogalactan protein. *Carbohydrate Polymers*, 106 1: 460-468. doi:10.1016/j.carbpol.2014.01.009
279. Paungfoo-Lonhienne, Chanyarat, Lonhienne, Thierry G. A., Yeoh, Yun Kit, Webb, Richard I., Lakshmanan, Prakash, Chan, Cheong Xin, Lim, Phaik-Eem, Ragan, Mark A., Schmidt, Susanne and Hugenholtz, Philip (2014) A new species of Burkholderia isolated from sugarcane roots promotes plant growth. *Microbial Biotechnology*, 7 2: 142-154. doi:10.1111/1751-7915.12105
280. Phetsang, Wanida, Blaskovich, Mark A. T., Butler, Mark S., Huang, Johnny Xiao, Zuegg, Johannes, Mamidyal, Sreeman K., Ramu, Soumya, Kavanagh, Angela M. and Cooper, Matthew A. (2014) An azido-oxazolidinone antibiotic for live bacterial cell imaging and generation of antibiotic variants. *Bioorganic and Medicinal Chemistry*, 22 16: 4490-4498. doi:10.1016/j.bmc.2014.05.054
281. Pichol-Thievend, Cathy, Hogan, Benjamin M. and Francois, Mathias (2014) Lymphatic vascular specification and its modulation during embryonic development. *Microvascular Research*, 96 3-9. doi:10.1016/j.mvr.2014.07.011
282. Pineda, Sandy S., Sollod, Brianna L., Wilson, David, Darling, Aaron, Sunagar, Kartik, Undheim, Eivind A. B., Kely, Laurence, Antunes, Agostinho, Fry, Bryan G. and King, Glenn F. (2014) Diversification of a single ancestral gene into a successful toxin superfamily in highly venomous Australian funnel-web spiders. *BMC Genomics*, 15 1: 177.1-177.16. doi:10.1186/1471-2164-15-177
283. Pineda, Sandy S., Undheim, Eivind A. B., Rupasinghe, Darshani B., Ikonopoulou, Maria P. and King, Glenn F. (2014) Spider venomomics: implications for drug discovery. *Future Medicinal Chemistry*, 6 15: 1699-1714. doi:10.4155/FMC.14.103
284. Pinheiro, Carina S., Ribeiro, Ana Paula Dias, Cardoso, Fernanda C., Martins, Vicente P., Figueiredo, Barbara C. P., Assis, Natan R. G., Moraes, Suellen B., Calari, Marcelo V., Loukas, Alex and Oliveira, Sergio C. (2014) A multivalent chimeric vaccine composed of Schistosoma mansoni SmTSP-2 and Sm29 was able to induce protection against infection in mice. *Parasite Immunology, Accepted Article* 1-23. doi:10.1111/pim.12118
285. Piper, Michael, Barry, Guy, Harvey, Tracey J., McLeay, Robert, Smith, Aaron G., Harris, Lachlan, Mason, Sharon, Stringer, Brett W., Day, Bryan W., Wray, Naomi R., Gronostajski, Richard M., Bailey, Timothy L., Boyd, Andrew W. and Richards, Linda J. (2014) NFIB-mediated repression of the epigenetic factor Ezh2 regulates cortical development. *Journal of Neuroscience*, 34 8: 2921-2930. doi:10.1523/JNEUROSCI.2319-13.2014
286. Pizzino, Amy, Pierson, Tyler Mark, Guo, Yiran, Helman, Guy, Fortini, Sebastian, Guerrero, Kether, Saitta, Sulagna, Murphy, Jennifer Louise, Patrick, Padiath, Quasar, Xie, Yi, Hakonarson, Hakon, Xu, Xun, Funari, Tara, Fox, Michelle, Taft, Ryan J., van der Knaap, Marjo S., Bernard, Genevieve, Schiffmann, Raphael, Simons, Cas and Vanderver, Adeline (2014) TUBB4A de novo mutations cause isolated hypomyelination. *Neurology*, 83 10: 898-902. doi:10.1212/WNL.0000000000000754
287. Plisson, Fabien, Prasad, Pritesh, Xiao, Xue, Piggott, Andrew M., Huang, Xiao-cong, Khalil, Zeinab and Capon, Robert J. (2014) Callyspongisines A-D: Bromopyrrole alkaloids from an Australian marine sponge, Callyspongia sp. *Organic and Biomolecular Chemistry*, 12 10: 1579-1584. doi:10.1039/c4ob00091a
288. Plumptre, Charles D., Eijkelkamp, Bart A., Morey, Jacqueline R., Behr, Felix, Couñago, Rafael M., Ogunniyi, Abiodun D., Kobe, Bostjan, O'Mara, Megan L., Paton, James C. and McDevitt, Christopher A. (2014) AdcA and AdcAll employ distinct zinc acquisition mechanisms and contribute additively to zinc homeostasis in Streptococcus pneumoniae. *Molecular Microbiology*, 91 4: 834-851-834-851. doi:10.1111/mmi.12504
289. Poger, David, Caron, Bertrand and Mark, Alan E. (2014) Effect of methyl-branched fatty acids on the structure of lipid bilayers. *Journal of Physical Chemistry B*, 118 48: 13838-13848. doi:10.1021/jp503910r
290. Poger, David and Mark, Alan E. (2014) Activation of the epidermal growth factor receptor: a series of twists and turns. *Biochemistry*, 53 16: 2710-2721. doi:10.1021/bi401632z
291. Pol, Albert, Gross, Steven P. and Parton, Robert G. (2014) Biogenesis of the multifunctional lipid droplet: Lipids, proteins, and sites. *Journal of Cell Biology*, 204 5: 635-646. doi:10.1083/jcb.201311051
292. Poongavanam, Vasanathanan, Madala, Praveen K., Højland, Torben and Veedu, Rakesh N. (2014) Computational investigation of Locked Nucleic Acid (LNA) nucleotides in the active sites of DNA polymerases by molecular docking simulations. *PLOS ONE*, 9 7: 1-7. doi:10.1371/journal.pone.0102126
293. Poursharifi, Pegah, Lapointe, Marc, Fiset, Alexandre, Lu, Huiling, Roy, Christian, Munkonda, Mercedes Nancy, Fairlie, David P. and Cianflone, Katherine (2014) C5aR and C5L2 act in concert to balance immunometabolism in adipose tissue. *Molecular and Cellular Endocrinology*, 382 1: 325-333. doi:10.1016/j.mce.2013.10.019
294. Powter, Elizabeth E., Coleman, Paul R., Tran, Mai H., Lay, Angelina J., Bertolino, Patrick, Parton, Robert G., Vadas, Mathew A. and Gamble, Jennifer R. (2014) Caveolae control the anti-inflammatory phenotype of senescent endothelial cells. *Aging Cell*, doi:10.1111/ace.12270
295. Praetorius, Christian, Sturm, Richard A. and Steingrimsson, Eirikur (2014) Sun-induced freckling: Ephelides and solar lentigines. *Pigment Cell and Melanoma Research*, 27 3: 339-350. doi:10.1111/pcmr.12232
296. Prasad, Punit, Rönnerblad, Michelle, Arner, Erik, Itoh, Masayoshi, Kawaji, Hideya, Lassmann, Timo, Daub, Carsten O., Forrest, Alistair R. R., Lennartsson, Andreas, Ekwall, Karl, for the FANTOM Consortium, Wells, Christine and Wolvetang, Ernst (2014) High-throughput transcription profiling identifies putative epigenetic regulators of hematopoiesis. *Blood*, 123 17: e46-e57. doi:10.1182/blood-2013-02-483537
297. Prashanth, Jutty Rajan, Brust, Andreas, Jin, Ai-Hua, Alewood, Paul F., Dutertre, Sebastian and Lewis, Richard J. (2014) Cone snail venomomics: From novel biology to novel therapeutics. *Future Medicinal Chemistry*, 6 15: 1659-1675. doi:10.4155/FMC.14.99
298. Premkumar, Lakshmanane, Kurth, Fabian, Duprez, Wilko, Grøftehaug, Morten K., King, Gordon J., Halili, Maria A., Heras, Begoña and Martin, Jennifer L. (2014) Structure of the Acinetobacter baumannii dithiol oxidase DsbA bound to EF-Tu reveals a novel protein interaction site. *Journal of Biological Chemistry, Papers in Press* 1-25. doi:10.1074/jbc.M114.571737
299. Prokudin, Ivan, Simons, Cas, Grigg, John R., Storen, Rebecca, Kumar, Vikrant, Phua, Zai Y., Smith, James, Flaherty, Maree, Davila, Sonia and Jamieson, Robyn V. (2014) Exome sequencing in developmental eye disease leads to identification of causal variants in GJA8, CRYGC, PAX6 and CYP11B1. *European Journal of Human Genetics*, 22 7: 907-915. doi:10.1038/ejhg.2013.268
300. Qin, Qiaoping, Kaas, Quentin, Wu, Wenming, Lin, Feifan, Lai, Qixian and Zhu, Zhujun (2014) Characterisation of the subunit genes of pyrophosphate-dependent phosphofructokinase from loquat (Eriobotrya japonica Lindl.). *Tree Genetics & Genomes*, 10 5: 1465-1476. doi:10.1007/s11295-014-0774-5
301. Quek, Kelly, Nones, Katia, Patch, Ann-Marie, Fink, J. Lynn, Newell, Felicity, Cloonan, Nicole, Miller, David, Fadlullah, Muhammad Z. H., Kassahn, Karin, Christ, Angelika N., Bruxner, Timothy J. C., Manning, Suzanne, Harliwong, Ivon, Idrisoglu, Senel, Nourse, Craig, Nourbakhsh, Ehsan, Wani, Shivangi, Steptoe, Anita, Anderson, Matthew, Holmes, Oliver, Leonard, Conrad, Taylor, Darrin, Wood, Scott, Xu, Qinying, Australian Pancreatic Cancer Genome Initiative, Wilson, Peter, Biankin, Andrew V., Pearson, John V., Waddell, Nic and Grimmond, Sean M. (2014) A workflow to increase verification rate of chromosomal structural rearrangements using high-throughput next-generation sequencing. *BioTechniques*, 57 1: 31-38. doi:10.2144/000114189
302. Quinn, Alexander, Kashimada, Kenichi, Davidson, Tara-Lynne, Ng, Ee Ting, Chawengsaksophak, Kallayane, Bowles, Josephine and Koopman, Peter (2014) A site-specific, single-copy transgenesis strategy to identify 5' regulatory sequences of the mouse testis- determining gene



- Sry. *PLOS ONE*, 9 4: 1-10. doi:10.1371/journal.pone.0094813
303. Ragan, Mark A. (2014) Bioinformatics. In Mehdi Khosrow-Pour (Ed.), *Encyclopedia of Information and Technology* 3rd ed. (pp. 393-401) United Kingdom: Sweet and Maxwell Ltd. doi:10.4018/978-1-4666-5888-2
304. Ragan, Mark A., Bernard, Guillaume and Chan, Cheong Xin (2014) Molecular phylogenetics before sequences: oligonucleotide catalogs as k-mer spectra. *RNA Biology*, 113: 176-185. doi:10.4161/rna.27505
305. Ragnarsson, Lotten, Andersson, Åsa, Thomas, Walter G. and Lewis, Richard J. (Epub 28/10/2014) Extracellular surface residues of thea1b-adrenoceptor critical for g protein-coupled receptor functions. *Molecular Pharmacology*, 87 1: 121-129. doi:10.1124/mol.114.094557
306. Ragnarsson L., Dodd PR and Hynd MR (2014) Role of Ionotropic Glutamate Receptors in Neurodegenerative and Other Disorders. In Richard M. Kostrzewa (Ed.), *Handbook of Neurotoxicity* (pp. 1039-1070) New York: Springerlink. doi:http://link.springer.com/referencework/10.1007/978-1-4614-5836-4/page/2
307. Raju, Ritesh, Khalil, Zeinab G., Piggott, Andrew M., Blumenthal, Antje, Gardiner, Donald L., Skinner-Adams, Tina S. and Capon, Robert J. (2014) Mollemycin A: an antimalarial and antibacterial glyco-hexadepsipeptide-polyketide from an Australian marine-derived Streptomyces sp. (CMB-M0244). *Organic Letters*, 16 6: 1716-1719. doi:10.1021/ol5003913
308. Rastetter, Raphael H., Bernard, Pascal, Palmer, James S., Chassot, Anne-Amandine, Chen, Huijun, Western, Patrick S., Ramsay, Robert G., Chaboissier, Marie-Christine and Wilhelm, Dagmar (2014) Marker genes identify three somatic cell types in the fetal mouse ovary. *Developmental Biology*, 394 2: 242-252. doi:10.1016/j.ydbio.2014.08.013
309. Rebaud S., Simon A., Wang C.K., Mason L., Blum L., Hofmann A. and Girard-Egrot A. (2014) Comparison of VILIP-1 and VILIP-3 binding to phospholipid monolayers. *PLOS ONE*, 94: e93948.1-e93948.8. doi:10.1371/journal.pone.0093948
310. Rebaud, Samuel, Wang, Conan K., Sarkis, Joe, Mason, Lyndel, Simon, Anne, Blum, Loic J., Hofmann, Andreas and Girard-Egrot, Agnes P. (2014) Specific interaction to PIP2 increases the kinetic rate of membrane binding of VILIPs, a subfamily of Neuronal Calcium Sensors (NCS) proteins. *Biochimica et Biophysica Acta - Biomembranes*, 1838 10: 2698-2707. doi:10.1016/j.bbame.2014.06.021
311. Rehman, Asma, Archbold, Julia, Hu, Shu-Hong, Norwood, Suzanne, Collins, Brett and Martin, Jennifer L. (2014) Reconciling the regulatory role of Munc18 proteins in SNARE-complex assembly. *IUCrJ*, 1 6: 505-513. doi:10.1107/S2052252514020727
312. Reid, Robert C., Yau, Mei-Kwan, Singh, Ranee, Hamidon, Johan K., Lim, Junxian, Stoermer, Martin J. and Fairlie, David P. (2014) Potent heterocyclic ligands for human complement C3a receptor. *Journal of Medicinal Chemistry*, 57 20: 8459-8470. doi:10.1021/jm500956p
313. Reimers, Jeffrey R., McKemmish, Laura K., McKenzie, Ross H., Mark, Alan E. and Hush, Noel S. (2014) The revised Penrose-Hameroff orchestrated objective-reduction proposal for human consciousness is not scientifically justified. Comment on "Consciousness in the universe: A review of the 'Orch OR' theory" by Hameroff and Penrose. *Physics of Life Reviews*, 11 1: 101-103. doi:10.1016/j.plrev.2013.11.003
314. Reyes, Gloria, Niederst, Matt, Cohen-Katsenelson, Ksenya, Stender, Joshua D., Kunkel, Maya T., Chen, Muhan, Brognard, John, Sierecki, Emma, Gao, Tianyan, Nowak, Dawid G., Trotman, Lloyd C., Glass, Christopher K. and Newton, Alexandra C. (2014) Pleckstrin homology domain leucine-rich repeat protein phosphatases set the amplitude of receptor tyrosine kinase output. *Proceedings of the National Academy of Sciences of the United States of America*, 11138: E3957-E3965. doi:10.1073/pnas.1404221111
315. Róna, Gergely, Borsos, Máté, Kobe, Bostjan and Vértessy, Beáta G. (2014) Factors influencing nucleo-cytoplasmic trafficking: which matter? Response to Alvisi & Jans' comment on Phosphorylation adjacent to the nuclear localization signal of human dUTPase abolishes nuclear import: structural and mechanistic insights. *Acta Crystallographica. Section D: Biological Crystallography*, 70 10: 2777-2778. doi:10.1107/S1399004714020501
316. Roona, Gergely, Borsos, Mate, Ellis, Jonathan J., Mehdi, Ahmed M., Christie, Mary, Koornyei, Zsuzsanna, Neubrandt, Mate, Tooth, Judith, Bozooky, Zoltan, Buday, Laszlo, Madaraasz, Emilia, Bodaen, Mikael, Kobe, Bostjan and Veertessy, Beata G. (2014) Dynamics of re-constitution of the human nuclear proteome after cell division is regulated by NLS-adjacent phosphorylation. *Cell Cycle*, 13 22: 3551-3564. doi:10.4161/15384101.2014.960740
317. Rönnerblad, Michelle, Andersson, Robin, Olofsson, Tor, Douagi, Iyadh, Karimi, Mohsen, Lehmann, Sören, Hoof, Ilka, de Hoon, Michiel, Itoh, Masayoshi, Nagao-Sato, Sayaka, Kawaji, Hideya, Lassmann, Timo, Carninci, Piero, Hayashizaki, Yoshihide, Forrest, Alistair R. R., Sandelin, Albin, Ekwall, Karl, Amer, Erik, Lennartsson, Andreas, for the FANTOM consortium, Wells, Christine and Wolvetang, Ernst (2014) Analysis of the DNA methylome and transcriptome in granulopoiesis reveals timed changes and dynamic enhancer methylation. *Blood*, 123 17: e79-e89. doi:10.1182/blood-2013-02-482893
318. Saez, Natalie J. and Vincentelli, Renaud (2014) High-throughput expression screening and purification of recombinant proteins in E-coli. In Yu Wai Chen (Ed.), *Structural genomics: General applications* (pp. 33-53) New York United States: Humana Press. doi:10.1007/978-1-62703-691-7_3
319. Salim, Angela A., Cho, Kwang-Jin, Tan, Lingxiao, Quezada, Michelle, Lacey, Ernest, Hancock, John F. and Capon, Robert J. (2014) Rare Streptomyces N-formyl amino-salicylamides inhibit oncogenic K-Ras. *Organic Letters*, 16 19: 5036-5039. doi:10.1021/ol502376e
320. Salim, Angela A., Xiao, Xue, Cho, Kwang-Jin, Piggott, Andrew M., Lacey, Ernest, Hancock, John F. and Capon, Robert J. (2014) Rare Streptomyces sp. polyketides as modulators of K-Ras localisation. *Organic and Biomolecular Chemistry*, 12 27: 4872-4878. doi:10.1039/c4ob00745j
321. Sanjaya, K. C., Ranzoni, Andrea, Watterson, Daniel, Young, Paul and Cooper, Matthew A. (2014) Evaluation of direct versus multi-layer passivation and capture chemistries for nanoparticle-based biosensor applications. *Biosensors and Bioelectronics*, doi:10.1016/j.bios.2014.09.048
322. Sawant-Dhuri, Dhanashri, Balasubramanian, Veerappan V., Ariga, Katsuhiko, Park, Dae-Hwan, Choy, Jin-Ho, Cha, Wang Soo, Al-deyab, Salem S., Halligudi, Shivappa B. and Vinu, Ajayan (2014) Titania nanoparticles stabilized HPA in SBA-15 for the intermolecular hydroamination of activated olefins. *ChemCatChem*, doi:10.1002/cctc.201402449
323. Schmidl, Christian, Hansmann, Leo, Lassmann, Timo, Balwierz, Piotr J., Kawaji, Hideya, Itoh, Masayoshi, Kawai, Jun, Nagao-Sato, Sayaka, Suzuki, Harukazu, Andreesen, Reinhard, Hayashizaki, Yoshihide, Forrest, Alistair R. R., Carninci, Piero, Hoffmann, Petra, Edinger, Matthias, Rehli, Michael, for the FANTOM consortium, Wells, Christine and Wolvetang, Ernst (2014) The enhancer and promoter landscape of human regulatory and conventional T-cell subpopulations. *Blood*, 123 17: e68-e78. doi:10.1182/blood-2013-02-486944
324. Schmidt, Jens, Khalil, Zeinab, Capon, Robert J. and Stark, Christian B. W. (2014) Heronapyrrole D: a case of co-inspiration of natural product biosynthesis, total synthesis and biodecovery. *Beilstein Journal of Organic Chemistry*, 10 1228-1232. doi:10.3762/bjoc.10.121
325. Schroder, Wayne A., Major, Lee D., Le, Thuy T., Gardner, Joy, Sweet, Matthew J., Janciauskiene, Sabina and Suhrbier, Andreas (2014) Tumor cell-expressed SerpinB2 is present on microparticles and inhibits metastasis. *Cancer Medicine*, 3 3: 500-513. doi:10.1002/cam4.229
326. Schroeder, Christina I., Swedberg, Joakim E., Withka, Jane M., Rosengren, K. Johan, Acan, Muharrem, Clayton, Daniel J., Daly, Norelle L., Cheneval, Olivier, Borzilleri, Kris A., Griffor, Matt, Stock, Ingrid, Colless, Barbara, Walsh, Phillip, Sunderland, Phillip, Reyes, Allan, Dullea, Robert, Ammirati, Mark, Liu, Shenping, McClure, Kim F., Tu, Meihua, Bhattacharya, Samit K., Liras, Spiros, Price, David A. and Craik, David J. (2014) Design and synthesis of truncated EGF-A peptides that restore LDL-R recycling in the presence of PCSK9 in vitro. *Chemistry and Biology*, 21 2: 284-294. doi:10.1016/j.chembiol.2013.11.014
327. Sester, David P., Thygesen, Sara J., Sagulenko, Vitaliya, Vijjhala, Parimala R., Cridland, Jasmyn A., Vitak, Nazarii, Chen, Kaiwen W., Osborne, Geoffrey W., Schroder, Kate and Katryn J. Stacey (2014) A novel flow cytometric method to assess inflammasome formation. *The Journal of Immunology*, doi:10.4049/jimmunol.1401110
328. Sherwani, Sikandar Khan, Ahmad, Haroon, Ahmad, Tauseef, Hussain, Tanveer, Akbar, Shazia, Zaidi, Sajjad Alam and Kazmi, Shahana U. (2014) Status of secretor and non-secretor with respect to ABO blood group system in young population in Karachi-Pakistan. *World Journal of Medical Sciences*, 10 1: 22-25. doi:10.5829/idosi.wjms.2014.10.1.8210
329. Sierecki, Emma, Stevers, Loes M., Giles, Nichole, Polinkovsky, Mark E., Moustaqil, Mehdi, Mureev, Sergey, Johnston, Wayne A., Dahmer-Heath, Mareike, Skalamera, Duka, Gonda, Thomas J.,

- Gabrielli, Brian, Collins, Brett M., Alexandrov, Kirill and Gambin, Yann (2014) Rapid mapping of interactions between human SNX-BAR proteins measured in vitro by AlphaScreen and single-molecule spectroscopy. *Molecular and Cellular Proteomics*, 13 9:2233-2245. doi:10.1074/mcp.M113.037275
330. Soo, Rochelle M., Skennerton, Connor T., Sekiguchi, Yuji, Imelfort, Michael, Paech, Samuel J., Dennis, Paul G., Steen, Jason A., Parks, Donovan H., Tyson, Gene W. and Hugenholtz, Philip (2014) An expanded genomic representation of the phylum Cyanobacteria. *Genome Biology and Evolution, Advance Access* 1-42. doi:10.1093/gbe/evu073
331. Spincemaille P., Alborzinia H., Dekervel J., Windmolders P., Van Pelt J., Cassiman D., Cheneval O., Craik D.J., Schur J., Ott I., Wolf S., Cammue B.P.A. and Thevissen K. (2014) The plant decapeptide OSIP108 can alleviate mitochondrial dysfunction induced by cisplatin in human cells. *Molecules*, 19 9: 15088-15102. doi:10.3390/molecules190915088
332. Sreenivasan, Rajini, Koopman, Peter A., Sinclair, Andrew and Harley, Vincent (2014) Differences of Sex Development. *Issues*, 107
333. Srihari, Sriganesh, Madhamshettiwar, Piyush B., Song, Sarah, Liu, Chao, Simpson, Peter T., Khanna, Kumkum and Ragan, Mark A. (2014) Complex-based analysis of dysregulated cellular processes in cancer. *BMC Systems Biology*, 8 Supplement 4: doi:10.1186/1752-0509-8-S4-S1
334. Stein, Viktor and Alexandrov, Kirill (2014) Protease-based synthetic sensing and signal amplification. *Proceedings of the National Academy of Sciences of the United States of America*, 111 45: 15934-15939. doi:10.1073/pnas.1405220111
335. Suen, J. Y., Cotterell, A., Lohman, R. J., Lim, J., Han, A., Yau, M. K., Liu, L., Cooper, M. A., Vesey, D. A. and Fairlie, D. P. (2014) Pathway-selective antagonism of proteinase activated receptor 2. *British Journal of Pharmacology*, 171 17: 4112-4124. doi:10.1111/bph.12757
336. Sunagar, Kartik, Undheim, Eivind A. B., Scheib, Holger, Gren, Eric C. K., Cochran, Chip, Person, Carl E., Koludarov, Ivan, Kelln, Wayne, Hayes, William K., King, Glenn F., Antunes, Agosthino and Fry, Bryan Grieg (2014) Intraspecific venom variation in the medically significant Southern Pacific Rattlesnake (*Crotalus oreganus helleri*): biodiscovery, clinical and evolutionary implications. *Journal of Proteomics*, 99 68-83. doi:10.1016/j.jprot.2014.01.013
337. Sutherland, Jessie M., Fraser, Barbara A., Sobinoff, Alexander P., Pye, Victoria J., Davidson, Tara-Lynne, Siddall, Nicole A., Koopman, Peter, Hirne, Gary R. and McLaughlin, Eileen A. (2014) Developmental expression of Musashi-1 and Musashi-2 RNA-binding proteins during spermatogenesis: analysis of the deleterious effects of dysregulated expression. *Biology of Reproduction*, 90 5: 1-12. doi:10.1095/biolreprod.113.115261
338. Taherian-Fard, Atefeh, Srihari, Sriganesh and Ragan, Mark A. (2014) Breast cancer classification: linking molecular mechanisms to disease prognosis. *Briefings in Bioinformatics*, doi:10.1093/bib/bbu020
339. Takasato, Minoru, Vanslambrouck, Jessica M. and Little, Melissa H. (2014) Reprogramming somatic cells to a kidney fate. *Seminars In Nephrology*, 34 4: 462-480. doi:10.1016/j.semnephrol.2014.06.012
340. Takasawa, Kei, Kashimada, Kenichi, Pelosi, Emanuele, Takagi, Masatoshi, Morio, Tomohiro, Asahara, Hiroshi, Schlessinger, David, Mizutani, Shuki and Koopman, Peter (2014) FOXL2 transcriptionally represses Sf1 expression by antagonizing WT1 during ovarian development in mice. *The FASEB Journal, Early Edition* 5: 1-9. doi:10.1096/fj.13-246108
341. Tanaka, Emi, Bailey, Timothy L. and Keich, Uri (2014) Improving MEME via a two-tiered significance analysis. *Bioinformatics*, 30 14: 1965-1973. doi:10.1093/bioinformatics/btu163
342. Taylor, Carol M., Northfield, Susan E., Wang, Conan K. and Craik, David J. (2014) Native peptide folding dominates over stereoelectronic effects of prolyl hydroxylation in loop 5 of the macrocyclic peptide kalata B1. *Tetrahedron*, 70 42: 7669-7674. doi:10.1016/j.tet.2014.06.058
343. Teasdale, Rohan D. and Collins, Brett (2014) Little evidence that FAM65B belongs to the family of phox homology (PX) and bin/amphiphysin/rvs (BAR) domain-containing proteins. *PNAS: Proceedings of the National Academy of Sciences of the United States of America*, 11139: E4064-E4064. doi:10.1073/pnas.1412755111
344. Teasdale, Rohan D. and Collins, Brett M. (2014) Introduction to special issue on endosome dynamics. *Seminars in Cell and Developmental Biology*, 31 1-1. doi:10.1016/j.semcdb.2014.05.001
345. Tenenhaus, Arthur, Philippe, Cathy, Guillemot, Vincent, Le Cao, Kim-Anh, Grill, Jacques and Frouin, Vincent (2014) Variable selection for generalized canonical correlation analysis. *Biostatistics*, 15 3: 569-583. doi:10.1093/biostatistics/kxu001
346. Tieu, William, Jarrad, Angie M., Paparella, Ashleigh S., Keeling, Kelly A., Soares da Costa, Tatiana P., Wallace, John C., Booker, Grant W., Polyak, Steven W. and Abell, Andrew D. (2014) Heterocyclic acyl-phosphate bioisostere-based inhibitors of *Staphylococcus aureus* biotin protein ligase. *Bioorganic and Medicinal Chemistry Letters*, 24 19: 4689-4693. doi:10.1016/j.bmcl.2014.08.030
347. Tilly, David, Dayaker, Gandrath and Bachu, Prabhakar (2014) Cobalt mediated C-H bond functionalization: emerging tools for organic synthesis. *Catalysis Science and Technology*, 4 9:2756-2777. doi:10.1039/c4cy00053f
348. Tnimov, Zakir, Abankwa, Daniel and Alexandrov, Kirill (2014) RhoGDI facilitates geranylgeranyltransferase-I-mediated RhoA prenylation. *Biochemical and Biophysical Research Communications*, 452 4: 967-973. doi:10.1016/j.bbrc.2014.09.024
349. Traini, Mathew, Quinn, Carmel M., Sandoval, Cecilia, Johansson, Erik, Schroder, Kate, Kockx, Maaike, Meikle, Peter J., Jessup, Wendy and Kritharides, Leonard (2014) Sphingomyelin phosphodiesterase Acid-like 3A (SMPDL3A) is a novel nucleotide phosphodiesterase regulated by cholesterol in human macrophages. *Journal of Biological Chemistry*, 289 47: 32895-32913. doi:10.1074/jbc.M114.612341
350. Trenholme, Katharine, Marek, Linda, Duffy, Sandra, Pradel, Gabriele, Fisher, Gillian, Hansen, Finn K., Skinner-Adams, Tina S., Butterworth, Alice, Ngwa, Che Julius, Moecking, Jonas, Goodman, Christopher D., McFadden, Geoffrey I., Sumanadasa, Subathdrage D. M., Fairlie, David P., Avery, Vicky M., Kurz, Thomas and Andrews, Katherine T. (2014) Lysine acetylation in sexual stage malaria parasites is a target for antimalarial small molecules. *Antimicrobial Agents and Chemotherapy*, 58 7: 3666-3678. doi:10.1128/AAC.02721-13
351. Truffi, Marta, Dubreuil, Veronique, Liang, Xuan, Vacaresse, Nathalie, Nigon, Fabienne, Han, Siew Ping, Yap, Alpha S., Gomez, Guillermo A. and Sap, Jan (2014) Receptor protein tyrosine phosphatase RPTPa controls epithelial adherens junctions, linking E-cadherin engagement to c-Src signaling to cortactin. *Journal of Cell Science*, doi:10.1242/jcs.134379
352. Truffi, Marta, Dubreuil, Veronique, Liang, Xuan, Vacaresse, Nathalie, Nigon, Fabienne, Han, Siew Ping, Yap, Alpha S., Gomez, Guillermo A. and Sap, Jan (2014) RPTPa controls epithelial adherens junctions, linking E-cadherin engagement to c-Src-mediated phosphorylation of cortactin. *Journal of Cell Science*, 127 11: 2420-2432. doi:10.1242/jcs.134379
353. Undheim, Eivind A. B., Sunagar, Kartik, Hamilton, Brett R., Jones, Alun, Venter, Deon J., Fry, Bryan G. and King, Glenn F. (2014) Multifunctional warheads: diversification of the toxin arsenal of centipedes via novel multidomain transcripts. *Journal of Proteomics*, 102 1-10. doi:10.1016/j.jprot.2014.02.024
354. Vadrevu S.K., Chintala N.K., Sharma S.K., Sharma P., Cleveland C., Riediger L., Manne S., Fairlie D.P., Gorczyca W., Almanza O., Karbowiczek M. and Markiewski M.M. (2014) Complement c5a receptor facilitates cancer metastasis by altering t-cell responses in the metastatic niche. *Cancer Research*, 74 13: 3454-3465. doi:10.1158/0008-5472.CAN-14-0157
355. van Wonderen, Jessica H., McMahon, Róisín M., O'Mara, Megan L., McDevitt, Christopher A., Thomson, Andrew J., Kerr, Ian D., MacMillan, Fraser and Callaghan, Richard (2014) The central cavity of ABCB1 undergoes alternating access during ATP hydrolysis. *FEBS Journal*, 281 9: 2190-2201. doi:10.1111/febs.12773
356. Ve, Thomas, Williams, Simon J. and Kobe, Bostjan (2014) Structure and function of Toll/interleukin-1 receptor/resistance protein (TIR) domains. *Apoptosis*, doi:10.1007/s10495-014-1064-2
357. Verstak, Brett, Stack, Julianne, Ve, Thomas, Mangan, Matthew, Hjerrild, Kathryn, Jeon, Jannah, Stahl, Rainer, Latz, Eicke, Gay, Nick, Kobe, Bostjan, Bowie, Andrew G. and Mansell, Ashley (2014) The TLR signaling adaptor TRAM interacts with TRAF6 to mediate activation of the inflammatory response by TLR4. *Journal of Leukocyte Biology*, 96 3: 427-436. doi:10.1189/jlb.2A0913-487R
358. Vetter, Irina, Zimmermann, Katharina and Lewis, Richard J. (2014) Ciguatera toxins: pharmacology, toxicology and detection. In Luis M. Botana (Ed.), *Seafood and freshwater toxins: pharmacology, physiology, and detection* 3rd ed. (pp. 925-950) Boca Raton, FL, United States: Taylor & Francis.
359. Vink, Simone, Daly, Norelle L., Steen, Natalie, Craik, David J. and Alewood, Paul F. (2014) Holocyclotoxin-1, a cystine knot toxin from *Ixodes holocyclus*. *Toxicon*, 90 308-317. doi:10.1016/j.toxicon.2014.08.068

SCIENTIFIC PUBLICATIONS

360. Wainwright, Elanor N., Svingen, Terje, Ng, Ee Ting, Wicking, Carol and Koopman, Peter (2014) Primary cilia function regulates the length of the embryonic trunk axis and urogenital field in mice. *Developmental Biology*, 395 2: 342-354. doi:10.1016/j.ydbio.2014.08.037
361. Walden, Patricia M., McMahon, Roisin M. and Archbold, Julia K. (2014) Membrane protein structures for rational antimicrobial drug design. *Australian Journal of Chemistry*, 67 12: 1724-1731. doi:10.1071/CH14333
362. Wang, Ching-I Anderson, Reeks, Timothy, Vetter, Irina, Vergara, Irene, Kovtun, Oleksiy, Lewis, Richard J., Alewood, Paul F. and Durek, Thomas (2014) Isolation and structural and pharmacological characterization of α -elapitoxin-Dpp2d, an amidated three finger toxin from black mamba venom. *Biochemistry*, 53 23: 3758-3766. doi:10.1021/bi5004475
363. Wang, Conan K., Northfield, Susan E., Colless, Barbara, Chaousis, Stephanie, Hamernig, Ingrid, Lohman, Rink-Jan, Nielsen, Daniel S., Schroeder, Christina I., Liras, Spiros, Price, David, A., Fairlie, David and Craik, David J. (2014) Rational design and synthesis of orally bioavailable peptides guided by NMR amide temperature coefficients. *Proceedings of the National Academy of Sciences of the United States of America (PNAS)*, 111 49: 17504-17509. doi:10.1073/pnas.1417611111
364. Wang, Conan K., Northfield, Susan E., Swedberg, Joakim E., Harvey, Peta J., Mathiowetz, Alan M., Price, David A., Liras, Spiros and Craik, David J. (2014) Translational diffusion of cyclic peptides measured using pulsed-field gradient NMR. *Journal of Physical Chemistry B*, 118 38:11129-11136. doi:10.1021/jp506678f
365. Wang, Jack T. H., Kerr, Markus and Teasdale, Rohan D. (2014) Cancer Insights through Macropinocytosis: a role for sorting Nexins? In *The research and biology of Cancer I* (pp. 1-23) Hong Kong, China: iConcept Press.
366. Wang, Xiao, Zhao, Liang and Zhao, Kong-Nan (2014) An optimized yeast cell-free lysate system for in vitro translation of human virus mRNA. In Kirill Alexandrov and Wayne A. Johnston (Ed.), *Cell-free protein synthesis: methods and protocols* (pp. 219-230) New York, United States: Springer. doi:10.1007/978-1-62703-782-2_14
367. Waters, Michael J., Brooks, Andrew J. and Chhabra, Yash (2014) A new mechanism for growth hormone receptor activation of JAK2, and implications for related cytokine receptors. *JAK-STAT*, 3 e29569: 1-6. doi:10.4161/jkst.29569
368. Willner D., Low S., Steen J.A., George N., Nimmo G.R., Schembri M.A. and Hugenholtz P. (2014) Single clinical isolates from acute uncomplicated urinary tract infections are representative of dominant In Situ populations. *mBio*, 5 2: doi:10.1128/mBio.01064-13
369. Wong J.J.L., Ritchie W., Gao D., Lau K.A., Gonzalez M., Choudhary A., Taft R.J., Rasko J.E.J. and Holst J. (2014) Identification of nuclear-enriched miRNAs during mouse granulopoiesis. *Journal of Hematology and Oncology*, 7 1: doi:10.1186/1756-8722-7-42
370. Wu, Selwin K., Budnar, Srikanth, Yap, Alpha S. and Gomez, Guillermo A. (2014) Pulsatile contractility of actomyosin networks organizes the cellular cortex at lateral cadherin junctions. *European Journal of Cell Biology*, 1-9. doi:10.1016/j.ejcb.2014.09.001
371. Xue Y., He L., Middelberg A.P.J., Mark A.E. and Poger D. (2014) Determining the structure of interfacial peptide films: Comparing neutron reflectometry and molecular dynamics simulations. *Langmuir*, 30 33: 10080-10089. doi:10.1021/la501715h
372. Yang, Fan, Ma, Linlin, Cao, Xu, Wang, KeWei and Zheng, Jie (2014) Divalent cations activate TRPV1 through promoting conformational change of the extracellular region. *Journal of General Physiology*, 143 1: 91-103. doi:10.1085/jgp.201311024
373. Ye, Ping, Zhao, Liang, McGirr, Crystal and Gonda, Thomas J. (2014) MYB down-regulation enhances sensitivity of U937 myeloid leukemia cells to the histone deacetylase inhibitor LBH589 in vitro and in vivo. *Cancer Letters*, 343 1: 98-106. doi:10.1016/j.canlet.2013.09.022
374. Yin, Kathleen, Zimmermann, Katharina, Vetter, Irina and Lewis, Richard J. (Epub 12/10/2014) Therapeutic opportunities for targeting cold pain pathways. *Biochemical Pharmacology*, 93 2: 125-140. doi:10.1016/j.bcp.2014.09.024
375. Yin, Kelvin, Sturm, Richard A. and Smith, Aaron G. (2014) MC1R and NR4A receptors in cellular stress and DNA repair: implications for UVR protection. *Experimental Dermatology*, 237: 449-452. doi:10.1111/exd.12420
376. Yu C.-H., Nguyen T.T.K., Irvine K.M., Sweet M.J., Frazer I.H. and Blumenthal A. (2014) Recombinant Wnt3a and Wnt5a elicit macrophage cytokine production and tolerization to microbial stimulation via Toll-like receptor 4. *European Journal of Immunology*, 44 5: 1480-1490. doi:10.1002/eji.201343959
377. Zhang, Jun, Hua, Zhengshuang, Huang, Zebo, Chen, QiZhu, Long, Qingyun, Craik, David J., Baker, Alan J. M., Shu, Wensheng and Liao, Bin (2014) Two Blast-independent tools, CyPerl and CyExcel, for harvesting hundreds of novel cyclotides and analogues from plant genomes and protein databases. *Planta*, doi:10.1007/s00425-014-2229-5
378. Zhao, Liang, Ng, Ee Ting, Davidson, Tara-Lynne, Longmuss, Enya, Urschitz, Johann, Elston, Marlee, Moisyadi, Stefan, Bowles, Josephine and Koopman, Peter (2014) Structure-function analysis of mouse Sry reveals dual essential roles of the C-terminal polyglutamine tract in sex determination. *Proceedings of the National Academy of Sciences*, 111 32: 11768-11773. doi:10.1073/pnas.1400666111
379. Zhao, Liang, Ng, Ee Ting and Koopman, Peter A. (2014) A piggyBac transposon- and gateway-enhanced system for efficient BAC transgenesis. *Developmental Dynamics*, 243 9:1086-1094. doi:10.1002/dvdy.24153



WOULD
\$30,000
GIVE YOUR
RESEARCH
CAREER?
A BOOST!



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

IMB

Institute for Molecular Bioscience

IMB Research Advancement Award

APPLY TODAY!

For information on how to
apply and eligibility visit
postgraduate.imb.uq.edu.au/awards

APPLICATIONS CLOSE
5pm on 15 September 2015

**APPLICATIONS ARE
SOUGHT FROM TALENTED
DOMESTIC STUDENTS WHO
DEMONSTRATE:**

- > **Excellence** in academic achievement
- > **A passion** for scientific research
- > **Independence and leadership** potential
- > **Ability to communicate** your love of science

RECEIVE an additional \$30,000*
career enrichment award on top
of your APA or an equivalent
scholarship.

* Payable in annual instalments of \$10,000.

ABOUT IMB

IMB is one of Australia's leading multidisciplinary life sciences research institutes working to pursue discoveries in medical genomics, drug discovery and biotechnology.

IMB students can undertake research across many disciplines, including those represented within our four IMB research centres:

- > Centre for Pain Research
- > Centre for Inflammation Research
- > Centre for Rare Diseases
- > Centre for Superbug Solutions.

postgraduate.imb.uq.edu.au/awards

CRICOS Provider Number 00025B

Emily Furlong, 2014 IMB Advancement Award winner



Conus geographus cone snails on the Sunshine Coast IMAGE CREDIT: David Mullins, Marine Images

DISCOVERIES FOR LIFE

Just imagine being part of a journey to discover new knowledge, which we turn into solutions to positively impact the health of our families, community and our environment.

Our generous donors are supporting research which will save lives and reduce suffering.

Just imagine 3D printed kidney tissue, which started life as skin stem cells.

Barbara Maier, the current recipient of the Dr Rosamond Siemon PhD scholarship in kidney research, has achieved just that!

Dr Siemon's motivation for establishing this endowed scholarship is to find a cure for genetic kidney disease.

Just imagine no more pain.

The Simon Axelson Memorial Fund is helping Professor David Craik find new solutions for pain from cone snail venom. Expected to be more effective than morphine, and non-addictive, this new class of pain drugs will provide an exciting glimpse into the future of pain management.

Simon's parents were motivated to find an answer for those suffering cancer pain.

Just imagine a cure for brain cancer.

Cure Brain Cancer Foundation has funded the John Trivett Fellowship in Brain Cancer Research to recruit world-class talent to Queensland to lead brain cancer research of global significance.

Cure Brain Cancer Foundation's motivation is to accelerate new treatments for brain cancer patients and increase five-year survival to 50% within 10 years.

Brainchild Foundation is supporting Professor Brandon Wainwright's research that focuses on genetic changes in children's recurrent brain tumours with the goal of developing safer, more effective, individualised treatments for children.

Brainchild's motivation is to beat childhood brain tumours and to ensure better tomorrows for affected children.

The support of our donors is vital.

Government budgets for discovery science have never been more uncertain, even though we know investment in science saves lives and makes significant contributions to our health, our environment and our economy.

Many breakthroughs and potential new cures are left to gather dust in laboratory archives due to lack of ongoing funding.

Let's do what we can to save lives and alleviate suffering.

Together, we will deliver better cures, faster.

Your
donations
will support



Vital research costs incurred by the institute and our research centres.



Scholarships to provide the most brilliant students an opportunity to pursue higher degree research at IMB. We attract the best students from around the world, and have students from 30+ countries.



Rising Star Awards which provide assistance for new, young researchers to present their work at symposiums and conferences.



Fellowships to enable our best early career researchers to begin their own journeys of discovery.



Chairs to provide long term support for our most senior researchers to ensure their breakthroughs make it through the funding gap from discovery to cure. Or discovery to planet!

Thank you for your gifts,
which enable us to make
exciting discoveries
inspired by life.

THANK YOU

TO OUR MAJOR
SUPPORTERS IN 2014



Australian Government
Australian Research Council



Australian Government
National Health and
Medical Research Council



Queensland Government



Australian Government
Department of Industry and Science



Australian
Cancer Research
Foundation



fondazione
cariplo



NATIONAL
BREAST CANCER
FOUNDATION



JAMES S.
MCDONNELL
FOUNDATION



Great Barrier
Reef Foundation



Cure Brain Cancer
FOUNDATION
Many minds, one purpose



GROUP
OF EIGHT
AUSTRALIA



Prostate Cancer
Foundation of Australia

RAMACIOTTI
MANAGED BY PERPETUAL

BILL & MELINDA
GATES foundation

Dr Rosamond
Siemon

The Simon Axelsen
Memorial Fund

INSTITUTE FOR MOLECULAR BIOSCIENCE

Queensland Bioscience Precinct (Building 80) | The University of Queensland
306 Carmody Road | St Lucia Qld 4072 | Australia

T: +61 7 3365 1111 | F: +61 7 3346 2101 | E: imb@imb.uq.edu.au

Discoveries inspired by life | www.imb.uq.edu.au

