SCIENCE DEAN, SCOTT O’NEILL – Leader of the Eliminate Dengue research program, has his sights set on strong ties with alumni, friends and industry.

SUCCESS – Our new science program with an edge – the BSc Advanced – Global Challenges (Honours)

NATASHA PINCUS
Someone we all know

The ‘Goyte’ filmmaker is still a scientist at heart.
We are very fortunate to have many talented and passionate science alumni working globally. We’ve reached out over the past year learning more about your careers and lives. In our first ever Gazette we’ve deliberately focussed on sharing some of these stories with you. We have 80 more on our website – monash.edu/science/alumni/graduates.

I’ve enjoyed meeting alumni, such as Elliot Kotek, who visited Melbourne from the USA to interact with our new BSc Global Challenges cohort – a program that has been brewing in my mind for some 17 years since I was at Yale University – and several other alumni who are very supportive of our students. Through science – and Global Challenges – we are trying to equip young people with the skills and confidence to tackle the complex economic, political and technological problems we face.

I am keen to see more alumni involved in our work and in supporting our students and research, which often has a very real societal impact. (We’ll focus on our research stories in the next Gazette).

Science at Monash is evolving, with record student numbers, and a great deal of change to our physical environment. You are welcome to visit us on campus in Clayton any time to see our new precinct for yourself and meet our people. We have new labs and working spaces across our five Schools together with new formal and informal teaching spaces. These are enabling more collaboration and have helped build a real energy and buzz in Science.

We’ve invested heavily in our people, welcoming new researchers, teachers and professional staff from all over the world – to join our talented team – some of whom will be known to you.

I am very grateful for your interest and support.

Eliminating dengue

A large part of my work involves leading the Eliminate Dengue: Our Challenge research program which is a not-for-profit international collaboration. With nearly 40 per cent of the world’s population at risk of dengue (a mosquito-borne viral disease) our work is rapidly expanding. The research trials – which see us release the naturally dengue blocking Wolbachia mosquitoes we have developed – are producing exciting results in six countries.

Through initial trials we have shown the Wolbachia method of dengue control is feasible. Our project partners in Australia, Vietnam, Indonesia, Brazil and Colombia are currently conducting, or preparing for, local field trials of our method. We are focused on developing methods for broad scale deployment across entire cities, as well as obtaining direct measures on impacts of dengue disease in communities.

My focus of late has been on the densely populated city of Yogyakarta in Indonesia – where we have begun releasing Wolbachia containing mosquitoes in the last year. We were fortunate to have Bill Gates visit our trial earlier this year. You can hear him talk about our work on his blog – www.gatesnotes.com/Health/Why-I-Gave-Blood-to-Defeat-Dengue-Mosquito-Week

More information about our research can also be found at www.eliminatedengue.com
Opening up technology for humanity

It was a chance meeting that led Elliot Kotek to co-found Not Impossible Labs, a revolutionary organisation and website showcasing DIY technological solutions to health-care problems that’s attracting attention globally.

Kotek – a Monash Science (pharmacology and toxicology) and Law alumnus – was at a conference in Montreal when he met up again with Mick Ebeling, the man behind the EyeWriter, a celebrated device that allowed a young graffiti artist who’d become paralysed or “locked in” to create again using eye tracking and laser beams.

They struck on the idea of crowd-sourcing to crowd solve previously insurmountable healthcare issues.

They are developing and publicising low-cost DIY ideas and posting them on a website with instructions, free for anyone to follow. They believe in providing solutions on an open-source platform in order to change lives around the globe.

Not Impossible LLC was formed in mid-2013 with “Technology for the sake of humanity” as its motto. It is now nurturing projects including: the BrainWriter which will allow completely paralysed people to communicate using EEG brainwave patterns; a 3D-printed prosthetic hand; and laser cane.

Project Daniel

Not Impossible sent a team to war torn South Sudan to provide communities with 3D printers and set up what’s believed to be the world’s first 3D printing prosthetic lab and training facility. Project Daniel – which Kotek – came to discuss with the new Science (BSc Global Challenges) cohort at Monash earlier this year – is truly life changing.

“Daniel, one of the kids we helped, fed himself for the first time in two years – it just melts you to see something like that,” says Kotek. The team have passed on the skills to the local people so the benefits can live on long after they left Sudan. www.notimpossiblenow.com / Twitter @notimpossible

The idea behind Not Impossible – which is part of the “maker movement” – is catching on. Kotek is now hearing from people about technological devices they’ve created for their loved ones. An engineer, for example, built a “power chair” for his son, born with disabilities, so he could play video games like other children.

“You help one, you help many, and if you tell these stories in a relatable and inspiring way you reach a lot of people who can make the implements themselves and help people who previously would not have had help.”

Kotek and a colleague Richard Van have won a Gold Lion at Cannes in the product design category. 😊
An incredible array of leaders – including alumni – have come face to face with our new BSc Advanced - Global Challenges (Honours) students giving them an insight into how to make change and break through barriers in business and life.

The full four-year science program is combined with extras – including persuasive communications, leadership and a look at global challenges in the first year. It is breaking new ground, in, and outside, the classroom.

The 28 students from across Australia, already say their expectations have, by far, been exceeded.

In second year students will delve into business fundamentals and entrepreneurship. Students will then go on an internship at the end of second year, and another at the end of the third year. The final year is a group project experience.

The brainchild of Dean of Science, Professor Scott O’Neill, the program gives young people the “experience of driving change early in their lives”. O’Neill says: “This program is something that is very dear to me. I see the power that an individual can have in the world by working in a team.”

“This is a program I have wanted to create for many years – since my time at Yale some 17 years ago.” He believes the program will have a positive flow on impact across all Science courses at Monash.

O’Neill has met with students frequently and shared his own journey from lab scientist to leader of the global Eliminate Dengue research program and academic administration as Dean. He has been involved in interviewing leaders such as the Honourable Julie Bishop, Foreign Minister, and Sam Prince, entrepreneur and Monash alumnus. He and Monash leadership worked with external businesspeople in selecting students for the program.

The only one of its kind in Australia, the new course was built by a small team in the Faculty of Science. They took advice from alumni and others who have led change and built enterprises.

Leaders have been critical to the program, and will remain so in interacting with students in the Dialogues, In Conversation sessions and boardroom lunches. The External Engagement team is reaching out for support (see box).

“Through this program we want to develop the great scientific thinkers of the future who are truly ready to step up and make a big difference to society.

“We can do this as individuals through not only great scientific discovery and implementation, but importantly, also through policy, business and social enterprise”.

Scott O’Neill

Interested in helping? Contact Enrica Longo – call+61 3 9903-4855 or email enrica.longo@monash.edu
**New BSc Global Challenges**

**Students**

**Dale George**

“I have seen the hardship faced by many around the world...with science people can be helped.”

“The course has opened my eyes to the impact science can have to the multifaceted nature of leadership and how the two are intertwined.”

**Cassandra Nolan**

“Humans perceive the planet as an unlimited, resilient source of life. I want to change the way society views the world so that we can create a sustainable future.”

“This degree teaches me to effectively share my knowledge and passion with the rest of the world.”

**Aidan Slack**

“I see a generation apathetic to science, preoccupied with the present. It is up to us to reinvent science to communicate the problems of today to look after the future.”

“Global Challenges is empowering me to believe in myself, maximising my abilities.”

**Isabelle Capomolla**

“I am focusing on eradicating poverty. I want to learn the skills to be able to make a significant change in this area through science, possibly through new innovative technology to bring water or education to people worldwide.”

“This course is giving me the opportunity to meet many like-minded and brilliant people all the time.”

**Nigel Abello – student tweeter @Nigel_Abello**

Be true to who you are and what you believe. A key value to have in order to gain others’ respect.

**Supporters**

**ROBERT PURVES AM**

Purves Environmental Fund, businessman

“Some of the Science degrees I have seen are very focused on science, whereas what I think you’re trying to do with this is open that up and make it more interactive with other areas of the economy so that science is not just seen as a silo.”

**HUGH EVANS**

CEO Global Poverty Project USA, Alumnus, Nelson Mandela Change Maker Award 2014

Tweet: We fundamentally believe systemic change will achieve more than fundraising
Tweet: Really enjoyed speaking with @Monash GC students

**CHRISTINE NIXON**

Deputy Chancellor of the Monash University Council, Former Chief Commissioner Victoria Police

“Having met young people who are now part of the program I think it’s a pathfinder.”

**PAUL ESPIE**

Founder Pacific Road Group, Alumnus

“This new course, in the formation of which I have been pleased to be involved, is designed to appeal to candidates with a sense of the fundamental importance of science in the modern world.”

**MIKE SMITH**

Former editor of The Age, CEO Inside PR

“Leading in a crisis: you’ve got to be a communicator, a truthteller & empathetic. A crisis is where leaders are made.”

**SAM PRINCE**

Entrepreneur, Alumnus, medical doctor

“I want to see more power in the hands of scientists and this new BSc Global Challenges is a good way of doing this. Ultimately science is the best way of piecing the universe together...”

**SIMON HOLMES A COURT**

Founding Chairman Hepburn Wind & businessman

“Be the person willing to solve hard problems.”

**AL RAMADAN**

Play Bigger Advisors USA, Alumnus

“It’s true that when you give your brain space, amazing things happen.”

“It’s bullshit about not being pushy” – his message to students.

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**Interested in helping?** Contact Enrica Longo – call+61 3 9903-4855 or email enrica.longo@monash.edu
Jason Yeap has helped shape the new Bachelor of Science (Advanced) Global Challenges. He is keen that students learn to understand and develop an ethical framework because he says “integrity – in life and in business” is essential.

Yeap and his wife, Min Lee Wong have established the Wong Swee Soon International Science Internships Award under the auspices of the Global Challenges International Science Internships Fund. Through the fund, students in the new program will be supported through an international internship. The award is to honour Min Lee’s late father, Wong Swee Soon, a senator in Malaysia who sent his children to Australia to be educated. “I want to recognise what he did,” says Yeap. “He was a very generous person. He cared for the family, in some ways to the detriment of himself.”

Min Lee Wong – mother of two children – Chuan-Jun and Nai Yan – says she is delighted to honour her father through the new science program. Key to the ambitious new program are two internship experiences that are reliant on alumni and key others in the community for support.

Wong says her father valued education and worked very hard to ensure his own two children (Min Lee and brother) could study. “He said to me no matter how tough things get for us both me and my brother would have the same opportunities to study in Australia”.

“Australia has given us something,” says Wong. “Jason feels strongly about giving back. We call Australia home. We had free tertiary education and now it’s time for us to give something back. We are sure many students that come from overseas need some support and have parents who struggle like ours did.”

Yeap and Wong’s “non-negotiable” demands on their own two children – is that they learn Chinese and attend university.

Life’s lessons are learnt largely through travel. The family has for the past 12 years travelled over the summer months for seven weeks at a time and often two or three times a year. They have explored six continents.

Yeap – named Sau Lee at birth – is a well-known Melbourne property investor and a philanthropist. He has been awarded a Medal of the Order of Australia for his services to the arts.

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Our Science alumni in the world – doing big things

New York

JEREMY BUZZARD – Anatomy

Applying scientific principles to business

Jeremy Buzzard’s 20th floor office at McKinsey & Company’s New York Office has a view across Park Avenue to Mies van der Rohe’s modernist Seagram Building. But as a partner in the global consulting firm, Buzzard is frequently not there to enjoy it.

He spends most of his time in the boardrooms and laboratories of the Fortune 500 pharmaceutical and medical devices firms that he advises on topics ranging from research and development strategies to planned mergers and acquisitions.

Buzzard, 35, did a Bachelor of Science at Monash (as part of the science scholars program). His final year honours project on the hormonal control of specialised fertility associated cells in the male testis was so good that he published his first scientific paper on it. He continued this work in his PhD, before taking a job as a research scientist with a Singapore-based biotech human embryonic stem cell start-up. Then came a short post-doc stint at the Harvard University lab run by the eminent cellular biologist Doug Melton – and the realisation that science wasn’t his true calling.

Business fascinated him – so much so that during his PhD he had moonlighted with a night school course in valuation and securities. In 2005 he joined the thousands of graduates who apply to McKinsey & Company every year.

Buzzard says his science background has been useful in his work with medical and scientific companies and well beyond that.

“Science is reinvigorated

Monash Science has 4,400 plus students

Hong Kong

JOSEPH CHAN – Computer Science

Science leads to tech career

Joseph Chan began his Monash computer science degree using boxy computers with a mere 64k of memory. This year marks his 14th year as the Founder and CEO of AsiaPay: a multi-award-winning electronic payment system that processes payments for small corner stores, large online stores, banks and credit card businesses for Visa, Mastercard and American Express and alternate payments in Asia.

In the three decades between, the 48-year-old Hong-Kong-born entrepreneur has been a frontline player in each stage of the internet banking revolution.

Throughout the nineties, working for Citibank HK and then Bank of America, Chan led the software response to that decade’s explosive expansion of ATMs, credit card use, automated call centres and branch automation.

His last project at Bank of America was the launch of an internet banking service for the bank’s individual clients.

In the year 2000 he was approached by a headhunter who was representing a group of investors who wanted someone capable of building – from scratch – an Asian version of the then new US internet payment system Paypal, and getting businesses to use it.

“It was difficult,” he recalls. “At the time even airlines weren’t yet selling tickets online.”

But he did the job. In 2001, when the dotcom bubble burst and the investors’ money ran out, he saved the fledgling enterprise, which then had only seven employees, by buying the company.

Joseph Chan now has 100 staff across 12 country operations in Asia and won Enterprise Asia’s Most Promising Entrepreneurship Award in 2013. But the first chapter of his 21st century business success story, he says, was written in the 1980s computer labs of Clayton.
Gabarone

RANDALL TSELENG – Environmental Science

Protecting Botswana’s wildlife

As a young boy Randall Tseleng wanted to be a pilot, just like his Dad, now the personal pilot for the Botswana President, Ian Khama. A high school excursion to northern Botswana’s Khobe National Park, with its huge population of Kalhari elephants, changed that. At 14, he was already aware of the destruction wrought by poachers who slaughter elephants for the illegal world traffic in ivory tusks.

He returned to his home, wondering how he could make a contribution to the welfare of his country’s magnificent wildlife. When he heard that Monash Malaysia offered a course in environmental management, he knew he’d found a pathway to his dream career.

The course included classes in aquatic biology taught by researcher Dr Catherine Yule, and field trips to the Sarawak’s remote Gunung Mulu National Park, a UNESCO World Heritage Site known for its many species of hornbills and bats, and to the Perhentian Islands, off the Malaysian east coast, with their endangered population of sea turtles.

Tseleng’s final year project was an environmental impact assessment of Sunway South Quay – a 72 hectare lakeside residential area near the Monash campus.

“There was a mining plant nearby, and we were looking at its impact on the water quality and on vegetation and birdlife.”

While his classmates are now spread between Malaysia, Nepal and South Africa and working for mining companies, conservation groups and NGOs, Tseleng – now 24 – wanted to head home. He was delighted to land a job as an environmental education assistant for Birdlife Botswana. It is a science and research-based organisation committed to spreading the conservation message in schools. “Botswana is a developing country, with a lot of infrastructure going in, so there will be a lot of opportunity for consultancy work in environmental management.”

Melbourne

NATASHA PINCUS – Microbiology

A film maker’s deep love of science

These days Natasha Pincus is best known as the filmmaker who made the multi-award winning video clip of Gotye’s chart-topping hit song “Somebody That I Used To Know”.

But, back in her days as a Monash science student, Pincus looked set for a career in molecular microbiology.

Her love affair with science was evident when she was 10 and reading Gray’s Anatomy. Anatomy and physiology remained her focus until a university “science” day encounter introduced her to microbiology.

Her undergraduate years were spent living and breathing science in an intense “study trio” with two fellow students. “We were dreaming up experiments, solving problems and asking questions – making notes and writing on walls.”

Pincus then did her honours year project in Professor John Davies’ lab, working on mutations in the DNA of two of the more unpleasant members of the Neisseria bug family: neisseria gonorrhoeae and Neisseria meningitidis, responsible for gonorrhoea and meningitis respectively. Enthralled by the work, she stayed on in that lab as a part-timer, after finishing her degree.

By then she had started studying law – an academic area she viewed as the perfect complement to science. “One is the laws of nature and the other is the laws of civilisation,” explains Pincus, 35. “To me you can’t be a complete person without knowing both.”

She then embarked on a third career as a film-maker and screenwriter. But Pincus would advise any undergraduate who is undecided on a career to study science.

“People don’t realise how useful science is. It’s a danger to see it just vocationally. You want to do science so you can become a better person.”

She certainly hasn’t left science behind on her journey into the creative arts. Screenwriting, she explains, is a kind of science, replete with formulae, strict rules and problem solving, while video editing is also a quasi-scientific process.

“You are holding so much in your mind at one time. Every time you make one change, you are trying to remember how it affects the balance of the whole.”

Even in her most cinematic moments, Pincus has found herself calling on skills honed during her science degree.

Her now world-famous Gotye video, for example, involved body painting and complex stop motion cinematography, in which the camera stops while an object or performer is added or subtracted from the scene. The intense three-day shoot, “an exercise in patience and dedication and precision”, was like a science experiment.

“People say I still talk like a scientist. Science has formed a big part of who I am even if I no longer wear a lab coat.”
Penang

YAP SUEY – Biotechnology

Applying science to politics

Yap Soo Huey was excited to be living in a developing country where she could see a huge need for change. She wanted to go on and make a political contribution, either in an NGO or as part of an advocacy group.

As a child she’d been fascinated by trees and loved the way biology showed her how natural systems work. As a teenager she was keen on the idea of being able to use that understanding for a practical purpose.

Enrolled at the then Monash Gippsland, she did her honours project on gene expression in HIV and went on to the prestigious Burnet Institute to begin a PhD study on the enzyme responsible for the replication of the HIV virus.

While she was fascinated by her research, and excelled, she found herself increasingly distracted by her passionate interest in political developments at home.

Then she met the Chief Minister of Penang and they spoke about a possible role for her with the island state’s science council. In 2011 she decided to abandon her PhD and return home. “There was an opportunity to contribute more directly and I took it,” says Yap, now 31. “At the moment we are at a crossroads in Malaysian politics. What happens over the next five years will determine the country’s trajectory.”

She was appointed Science, Technology and Innovation Officer in the Chief Minister’s office. She has organised the Penang International Science Fair and has been appointed project manager for “Tech Dome” (techdomepenang.org) – a super-modern high-tech science museum due to open at the end of 2014. Yap is also a member of the Penang State Assembly. This involves her in urban planning and social welfare and dealing with issues ranging from children with special needs to the management of the Penang Botanic Gardens.

“At the moment we are at a crossroads in Malaysian politics. What happens over the next five years will determine the country’s trajectory.”

Bath

ANJA-KARINA PAHL – Geology

Creativity from science

Anja-Karina Pahl’s multi-award winning systemised theory of innovation (PRIZM Game and Innovation map) is being used in creativity workshops by banking, technology and clothing companies across the UK, Europe and Asia.

The aerospace giant Airbus was Pahl’s first ever client, and remains her biggest, with 8000 Airbus staff now using PRIZM sessions to stimulate their creativity in solving issues from seat design to fuel efficiency and passenger flow.

The path between the 1989 student studying rock formations and today’s high-flying “gamification” entrepreneur is a simple, straight line – located in an intellectual interest in patterns that began when Pahl was studying Geology. Back then she was focused on Structural Geology, completing a Masters project comparing patterns of fracture and shear in tiny quartz grain with those of vast rock formations in San Andreas and Nevada – she found them identical.

Moving to the University of Western Australia, she began a vast “theory of everything” PhD on movement propagation patterns in stars and rocks. This had practical applications for the mining industry, enabling her to work as a consultant in the exploration field. But it didn’t work as an academic endeavour. After seven supervisors and five rewrites she gave up.

Yet this intense research into the patterns created by Nature set the course for Pahl’s future – her passion for examining such patterns was pointed at human creativity and innovation, and later codified in PRIZM.

After immersing herself in a system called TRIZ (“The Theory of Inventive Problem Solving”, devised by the Soviet engineer and scientist Genrich Altshuller), she moved to Bath University and worked with Professor Julian Vincent, a scientist with a mission to introduce concepts from biology into engineering and design. This time she examined psychology and sociology and devised the theory of a “fundamental pattern” in human creativity – one that can be described in fairly simple geometry. This was the basic prototype for the PRIZM Game and Innovation Map.

“I was able to prove there is a fundamental pattern to that way that all human beings think,” she says. “If you are a fashion designer or an aerospace designer, it doesn’t matter. People still think the same way.”

Pahl recently launched a special PRIZM children’s project – “The Future of Inspiration” – in Australia, UK and the US. “We are going to train teachers and scout leaders. We can reach 10,000 kids with 625 adults. Our new product will be called ‘Inspiration in a Box’.”
Belo Horizonte

ROB SMACKMAN – Geology

Geologist with a yen for travel strikes gold

After graduating with honours in 1992, Rob Smakman worked and travelled with his wife Itta Somaia – also a geologist and Monash graduate – in areas from outback Australia to southern Africa to Eastern Europe.

Along the way he has been part of several significant discoveries. He is managing director of Crusader Resources, an ASX-listed company he and several others set up in 2004. Crusader’s gold project, Borborema, is located in the Serido area of the Borborema province in north-eastern Brazil.

The project, which is in the final phases of feasibility, has turned out to be bigger than its founders expected – with an estimated 2.4 million ounces in resources, it is planned to be one of Brazil’s biggest gold mines. It is hoped the mine will prove to be a “real success” for Crusader and for the people of Serido. “We’re going to be able to provide some real support for the local community with job creation and royalties, and contribute to a sense of pride in the region.”

Smakman and Somaia are living with their two sons in Belo Horizonte, the capital and largest city in the south-eastern state of Minas Gerais.

Smakman was also present at the discovery of gold deposits at the Southern Star mine in Western Australia. He was the first geologist on site for Arvil Mining at the Dikulushi mine in the Democratic Republic of Congo, now being worked as one of the highest grade copper deposits in the world. He also managed the re-commencement of exploration on the Certej polymetallic deposit in Romania for European Goldfields Ltd.

He was motivated to study science by the memory of his late brother Henk, who’d studied science at Monash but died when Robert was eight.

He met Somaia at Monash on a second-year zoology camp. He says the other big benefit of his days on campus, apart from the “really rounded education in science”, has been the good friends he made, many of whom he’s still in contact with.

“People are very negative about mining and what it does but it’s an essential part of life and the benefits it brings to remote communities are amazing.”
Roy Jackson AM had almost forgotten that he'd applied for the position of Chairman of Organic Chemistry at Monash University in 1972 when the university library in Belfast rang to say there was a telex for him. The telex invited him to Melbourne for an interview.

It was three years after civil unrest had turned violent in Northern Ireland. Queen's University, where Jackson worked as a Reader in chemistry, was losing students, particularly bright ones. Jackson started at Monash early in 1973.

In the 40 years since, Roy Jackson has made a big impact on the university, both in terms of campus life and securing vital financial support for research, and he is known beyond it for his own research. He was awarded an Order of Australia (AM) in 2013 "for distinguished service to science in the field of organic chemistry as an educator and researcher”.

Jackson was born in 1935 in Bacup, a small English mill town north of Manchester. His father, grandfather and great-grandfather all worked on the railways. He graduated from Manchester University and gained a doctorate at Kings College, University of London.

He was pleased with what he found at Monash University when he arrived – “excellent students, a marvellous bunch of colleagues and enormous support for chemistry”. He threw himself into campus life.

Jackson helped run the Robert Blackwood Hall as artists and musicians, including Yehudi Menuhin and the Melbourne Symphony Orchestra, performed there, eventually chairing its board. Whilst chairing the Union Board, he successfully pushed for the swimming pool; an annex to the Robert Blackwood Hall to house the grand piano; and the Den café. “Lot’s Wife called me ‘two-armed Jackson’ because I frequently used the casting vote!” he says.

In the mid ’70s, when federal government funding for universities was declining, Jackson started raising money for research with industry, amongst an early wave of academics to do so.

In 1979, he and his colleague Frank Larkins gained a grant so large from BP (British Petroleum) that it was written about in the Financial Times. The grant helped support their research into turning brown coal into liquid fuel. Brown coal has been a major preoccupation — Jackson in currently investigating other uses for it, including as a source of soil improvement, a cheap source of bitumen and for turning it into coking coal for use in steel making. As a catalytic chemist, he has, and is, investigating the development of new materials for use in drugs, paint and polymers in collaboration with younger colleagues. Jackson became a consultant to ICI Australia and has been involved in several commercial developments.

He became head of school in 1990 for three years. In 2000 he became the co-founder with Colin Raston of the Centre for Green Chemistry, and its first director.

Jackson has published more than 400 papers in international journals and has a number of patents. Much of his “blue sky” research was and is supported by grants from the Australian Research Council.

Married to Heather, an archaeologist, has three children and enjoys bushwalking, playing and listening to music.
Giving back to your alma mater

Dr John Parrott

Dr John Parrott has been an avid supporter of Monash University since studying chemistry in the 1960s; now he and his wife Mary are giving back. After a 20 year career with BHP Billiton, Dr Parrott championed research on ceramic or solid oxide fuel cells. “Ceramic fuel cells are the most efficient way we know to generate electricity,” he says. He later helped commercialise the new form of sustainable energy production.

John and Mary Parrott are donating towards student scholarships and have committed a bequest to science seeking to build a sustainable base of support for students.

Says Dr Parrott, “My years doing my PhD were some of the best years of my life.”

Dr Paul Fraser

Renowned atmospheric chemist Dr Paul Fraser generously makes an annual donation to the Faculty of Science Discovery and Innovation Fund to help the work of future science students.

Dr Fraser spent over seven years at Monash University, gaining his PhD in chemistry in 1972. An active alumnus, he keeps in close contact with other Monash chemistry graduates through functions and sporting reunions.

After post-doctoral appointments at Bristol University and at the ANU, in the area of organometallic chemistry, he took a change in career direction moving into climate change research at the CSIRO.

He has remained there ever since, devoting himself to the topic of anthropogenic climate change. His work has included establishing the Cape Grim Atmospheric Baseline Station in Tasmania in the late 1970s. He and his team at CSIRO discovered several new greenhouse gases in the background atmosphere.

His has won many awards, and in 2012 was described by the Royal Australian Chemical Institute as ‘a living luminary of Australian chemistry’.

Professor Roger Brown

The Estate of the late Professor Roger F. C. Brown has left a gift to the School of Chemistry to assist with the cost of inviting interstate or overseas speakers.

Bequests are a critical support to the work carried out in the Faculty of Science.

Professor Brown, who was part of the School of Chemistry for more than 30 years, died in September 2013. His funeral service was held at the Monash Religious Centre.

He came to Monash University in 1968 as a Reader in Chemistry and retired as a professor in 1996. He became an Emeritus professor in 2002.

Professor Brown was a valued mentor to those in other generations of scientists.

Professor Robert Street

The Professor Robert Street Doctoral Prize in Physics - established in 2011 - rewards and highlights outstanding students in the School of Physics. The award was made possible by a generous donation by the late Robert Street AO (passed away 4 July 2013) who was Foundation Chair of Physics. Emeritus Professor William Rachinger has also generously contributed to the award.

Volunteers – worth their weight in rock

Neil Phillips: A 40th anniversary party that reunited people from the early days of Geology is to become an annual event – thanks to alumnus – Neil Phillips – who volunteered his time and his home to organise it.

When Phillips enrolled in the first intake for Geology in early 1973, the then Earth Sciences department consisted of a professor, and two or three staff.

New school – Earth, Atmosphere & Environment: That school is now a large new group – the school of Earth, Atmosphere and Environment (EAE) and includes all staff in the current Schools of Geosciences, the Atmospheric group in the School of Mathematical Sciences, and the Physical Geography group in the current school of Geography and Environmental Science in the Faculty of Arts. Head of the new school, Sandy Cruden, says: “The new school combines people who look at all parts of the Earth from the core to the atmosphere.”

New spaces helps coworking

A new collaborative science learning space, open all day to any science student – has lived up to the Science Dean’s aim of creating a space they call their own. Asked what they liked most, students say, the relaxed atmosphere, the comfortable couches and flexible seating, Wi-Fi, kitchen, study rooms, and that it’s a place they can work on assignments and solve problems collectively. The University experience should run much deeper than the lecture theatre alone and this space helps.

YOU CAN HELP

Donate
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Call Development, Alumni & Special projects
+ 61 3 9903 4855

Email
enrica.longo@monash.edu
**John Lattanzio**

**Red giants are his life’s work**

Science, to Monash astrophysicist and alumnus John Lattanzio, is more than a job; it’s one of life’s imperatives. “It’s like art – you just have to do it. If you don’t, it’s to the detriment of society.” He reminds us that science is both creative and “the best way to find out about most things”.

Professor Lattanzio heads MoCA – the Monash Centre for Astrophysics – which he established in 2001. It now houses groups of researchers regarded as some of the best in the world. He works in the centre’s Stellar Interiors and Nucleosynthesis Division, which researches the structure and interior changes in stars and the nuclear elements they produce. Lay people may be unaware that the elements on Earth originally came from stars, that gold for example, came from super novae (huge stellar explosions) and that the fluoride in toothpaste comes from red giants (giant stars) – his speciality.

A Monash undergraduate, he did post-doctoral work in Toronto and California, spent a year at Cambridge and returned to Monash, as a lecturer, in 1991.

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**Andrea Robinson**

**Her beautiful molecule**

A chemistry researcher – Andrea Robinson is working on a synthetic peptide – a small protein molecule related to insulin – and has had very promising pre-clinical trial results in the USA backed by venture capitalists. Insulin is vital to the estimated 347 million – and growing – diabetic patients worldwide. But in its natural form, or in the available synthetic form, it’s not heat stable and loses its potency when stored above 4 degrees Celsius – problematic when distributing medication in remote areas of Australia or in developing countries. Her “beautiful molecule” is heat stable to 80 degrees Celsius. Associate Prof Robinson is the Science Faculty’s Associate Dean (Research) charged with growing our research links with industry.

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**Peter Betts**

**Loving the ocean’s mystery**

A geologist – Peter Betts is involved in interpreting the earth’s gravity and magnetic fields, and is investigating Proterozoic plate reconstructions, which explain how the continents were formed. He is also undertaking geodynamic modelling with a mathematician colleague, trying to arrive at a theoretical model of how the plates move. He’s excited about a new project investigating how oceans open, in which he and a colleague are studying the Red Sea, the world’s youngest ocean. Associate Prof Betts is the Faculty’s Associate Dean Research Training helping our PhD students.

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