

40 YEARS
OF BIONIC RESEARCH



Bionics
Institute



Michael Donison



Paul Swenson



Bradha



Judy McKayhin



Peter Soligman



Louis Fauchette



Un



Nelson Hodgson



Richard D.



Constance Murphy



Pete S



Rose Wills



Andy Blunder



Chris Phylaud



Lois Martin



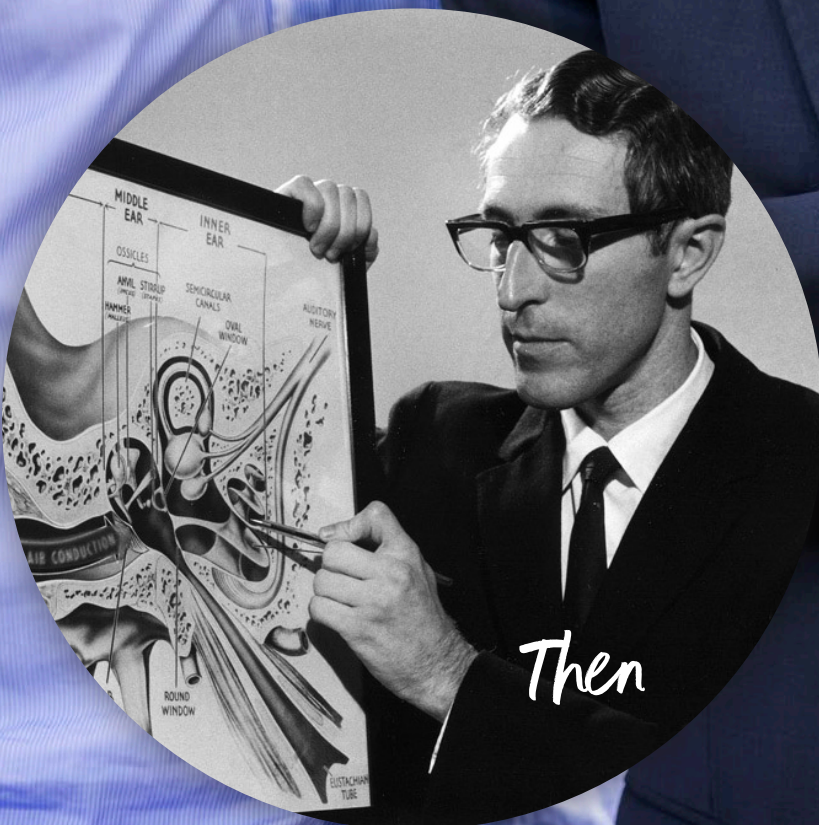
Alison Brown



A Hidden Treasure - date & artist unknown

Collection of BI staff illustrated by a former staff member held over the years by Prof. Peter Seligman, former engineer.

Laureate Professor Grame Clark AC
(Right) pictured with Sam McLarty,
cochlear implant recipient (Left)



Now



A LEGACY OF *Transformation*

Celebrating 40 years of bionic research

Laureate Professor Graeme Clark

“ I knew the cochlear implant operation on Rod was a success. When we developed the speech code for electrical stimulation of his brain, that enabled him to recognize some words without any help from lip reading.

In the end, I was so overcome with emotion, I went quietly into the next-door lab and burst into tears of joy.

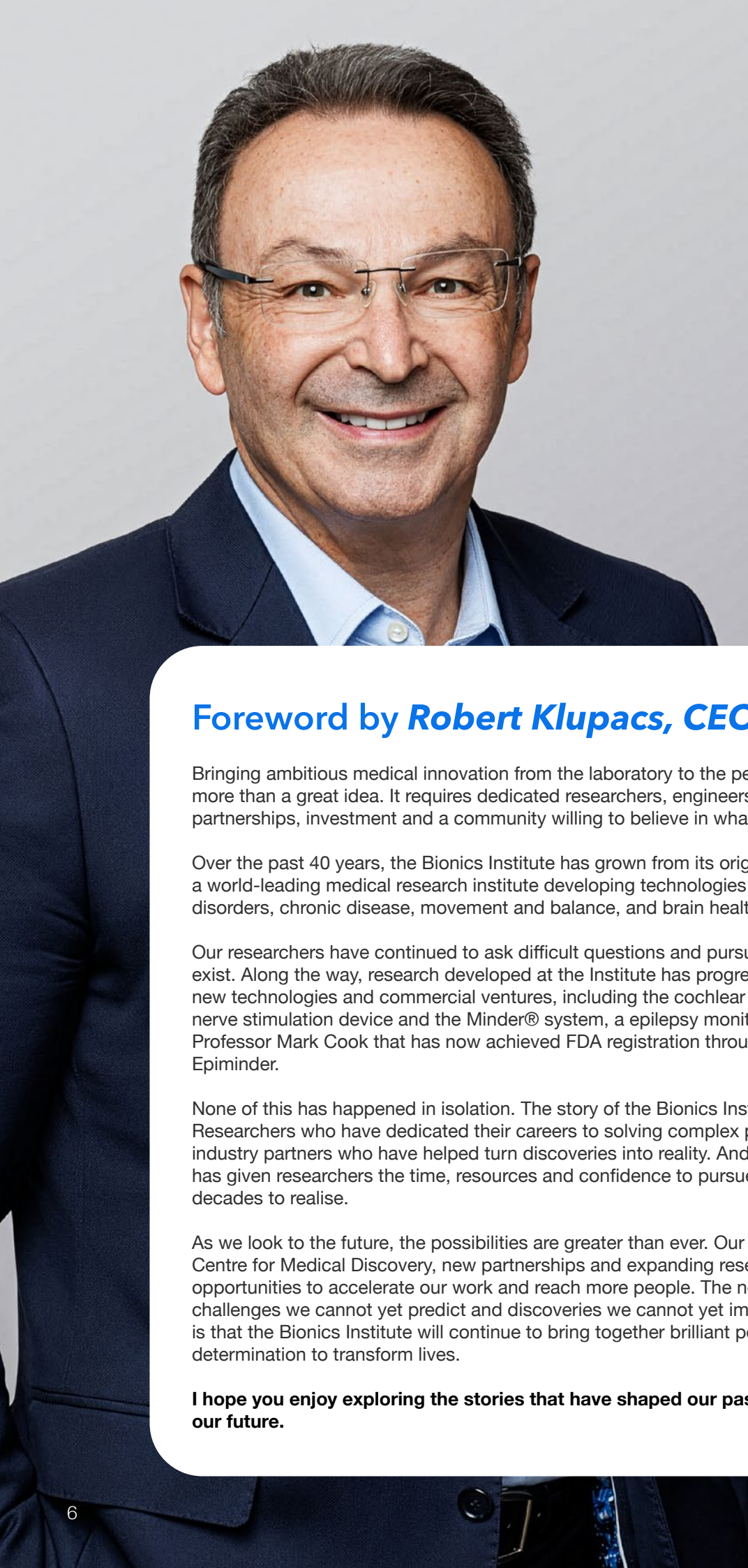
The creation of the Bionic Ear Institute allowed me to coordinate my professorial duties as the head of a university department with that of a research institute.

Our coordinated research made significant progress, and the Bionics Institute has continued as an excellent participant in Melbourne's overall research effort.

There is now a meeting of minds in engineering and medical biology. Engineers now have a good understanding of medical, biological problems and vice versa.”

Graeme Clark speaking on video about the Bionics Institute
<https://youtu.be/jwbDnHnQemE>





Foreword by *Robert Klupacs, CEO*

Bringing ambitious medical innovation from the laboratory to the people who need it requires more than a great idea. It requires dedicated researchers, engineers and clinicians, strong partnerships, investment and a community willing to believe in what is possible.

Over the past 40 years, the Bionics Institute has grown from its origins in hearing research into a world-leading medical research institute developing technologies across hearing, neurological disorders, chronic disease, movement and balance, and brain health.

Our researchers have continued to ask difficult questions and pursue solutions where few exist. Along the way, research developed at the Institute has progressed into clinical trials, new technologies and commercial ventures, including the cochlear implant, abdominal vagus nerve stimulation device and the Minder® system, a epilepsy monitoring device developed with Professor Mark Cook that has now achieved FDA registration through our spin-off company, Epiminder.

None of this has happened in isolation. The story of the Bionics Institute is also a story of people. Researchers who have dedicated their careers to solving complex problems. Clinicians and industry partners who have helped turn discoveries into reality. And supporters whose generosity has given researchers the time, resources and confidence to pursue ideas that may take decades to realise.

As we look to the future, the possibilities are greater than ever. Our new home at the Aikenhead Centre for Medical Discovery, new partnerships and expanding research programs provide opportunities to accelerate our work and reach more people. The next 40 years will bring challenges we cannot yet predict and discoveries we cannot yet imagine. What we do know is that the Bionics Institute will continue to bring together brilliant people, bold ideas and the determination to transform lives.

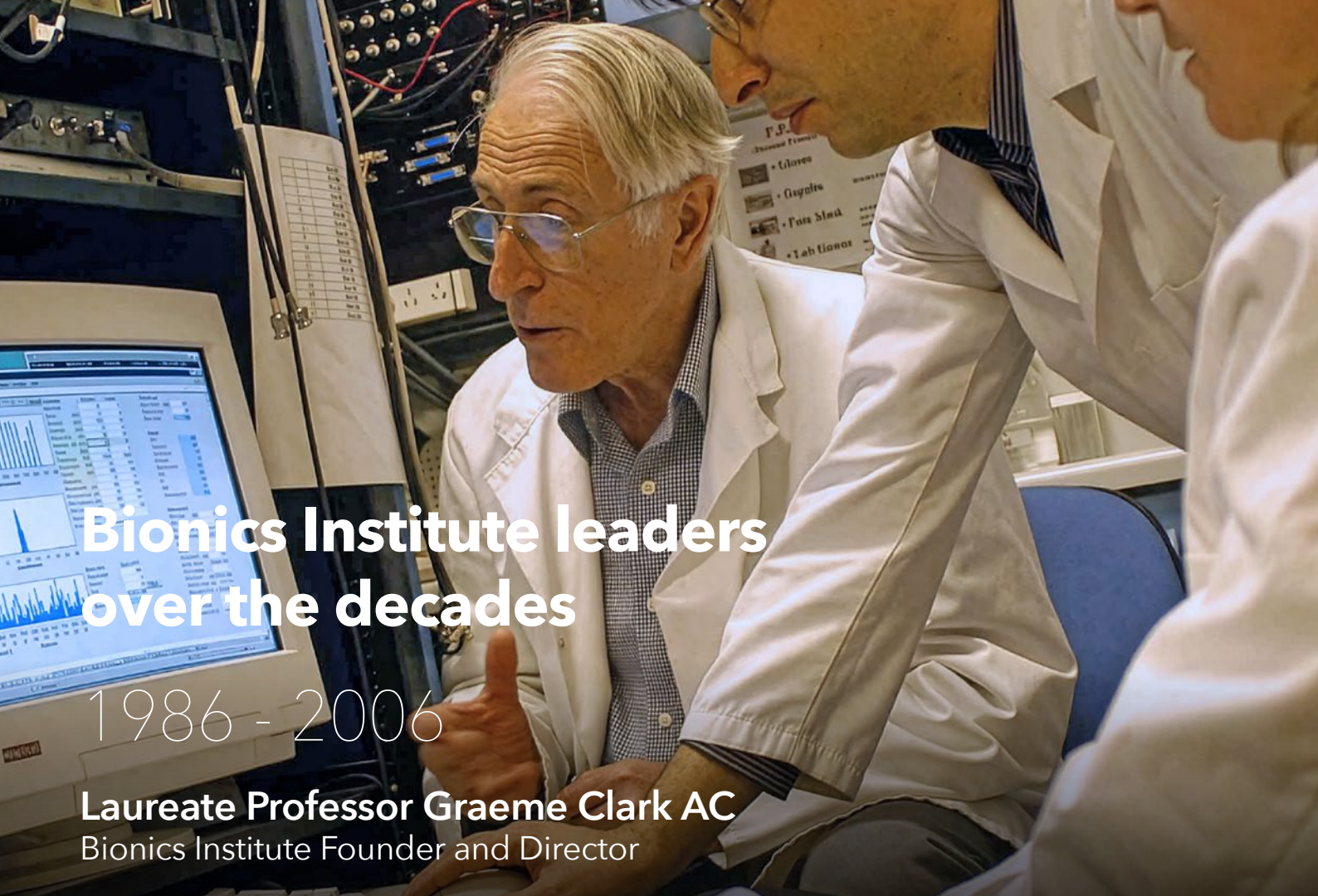
I hope you enjoy exploring the stories that have shaped our past and are helping to create our future.

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What is medical bionics?

Medical bionics is a multidisciplinary field of research combining **bio**(logy) and (electro)**nic**s to develop devices that electrically modulate or monitor neural activity to provide innovative treatments for a range of medical conditions.



Bionics Institute leaders over the decades

1986 - 2006

Laureate Professor Graeme Clark AC
Bionics Institute Founder and Director

Graeme Clark AC Laureate Professor at the University of Melbourne initiated and led the team that invented Australia's multi-channel cochlear implant, which was developed by Cochlear Limited, and is the founder of the Bionics Institute.

Professor Clark and his team achieved an incredible breakthrough with the cochlear implant, which is regarded by many as the greatest advance in the treatment of hearing loss. The cochlear implant is one of Australia's most important innovations and has given the ability to hear and understand speech to nearly a million children and adults. This success has helped establish the discipline of Biomedical Engineering.

By allowing deaf people to hear and understand speech, the cochlear implant has also created the field of medical bionics – the combination of biology and electronics for new treatments and diagnostic tools.

Following the success of the cochlear implant, Professor Clark founded the Bionics Institute (then the Bionic Ear Institute) in 1986 to continue its development.



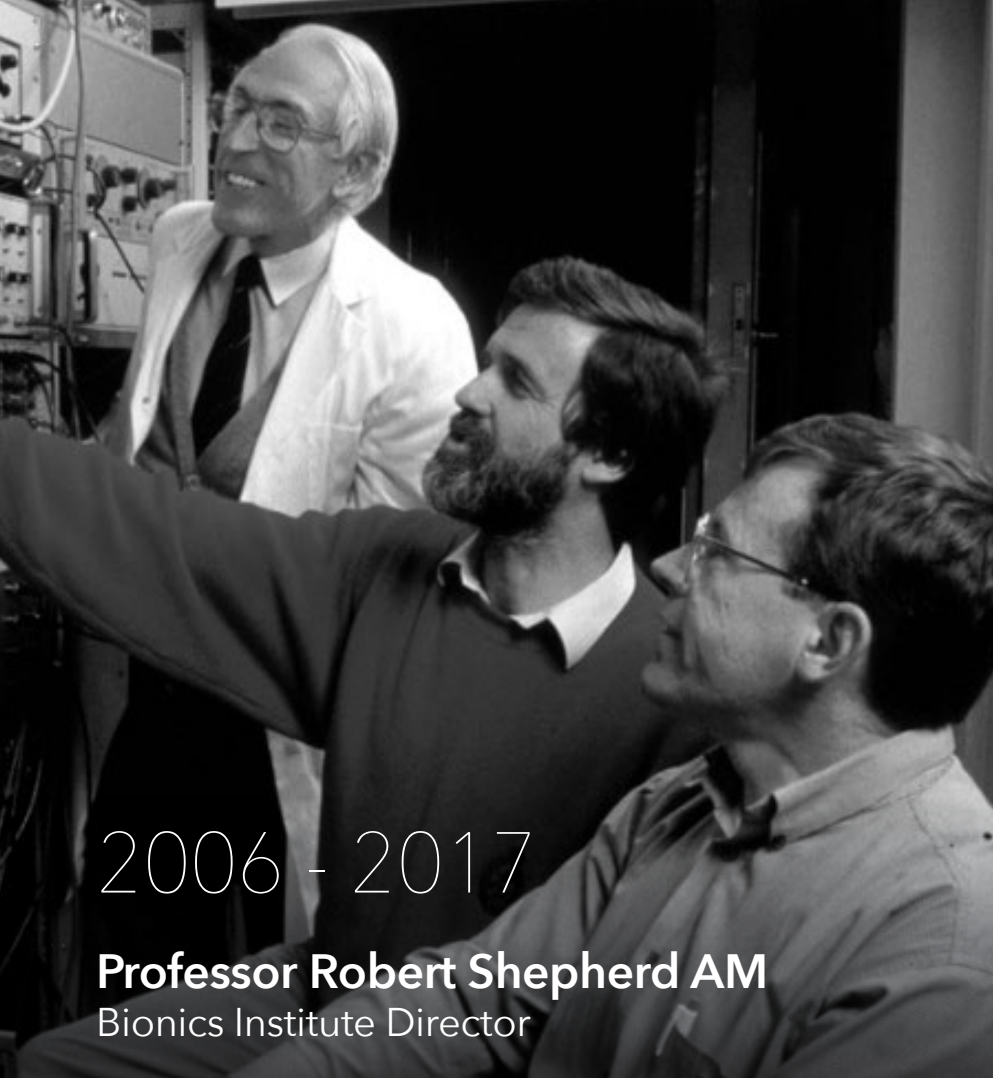
Portrait of Professor Graeme Clark 2000 by Peter Wegner

Oil on canvas | National Portrait Gallery of Australia

Gift of the family of Professor Graeme Clark 2001.

Donated through the Australian Government's Cultural Gifts Program.

© Peter Wegner | Photo © National Portrait Gallery of Australia



2006 - 2017

Professor Robert Shepherd AM
Bionics Institute Director



Professor Robert Shepherd AM has been instrumental in the development of cochlear implant technology and the growth of medical bionics research in Australia.

Joining the University of Melbourne in 1975, Rob became a key member of the pioneering team that developed the cochlear implant. His research helped establish how electrical stimulation could safely interact with the auditory system, contributing to a technology that has transformed the lives of people with profound hearing loss around the world.

Reflecting on the early years of the bionic ear, Rob highlighted the importance of the collaborative effort behind this breakthrough:

“The project - ‘to provide hearing for the profoundly deaf’ - was inspiring; the research team was focused, multidisciplinary and very dedicated, and we could see our work was making a difference.”

- Professor Robert Shepherd

In 2006, Rob became Director of the Bionic Ear Institute, leading the organisation through a period of growth and expansion. His vision helped broaden the Institute’s research beyond hearing into new areas of medical bionics, including neural stimulation and technologies designed to restore function for people with neurological conditions.

Through his scientific contribution and leadership, Rob helped build the foundations for the Institute’s continued innovation and impact.



2017 - Present

Robert Klupacs
Bionics Institute CEO

Robert Klupacs has played a key role in shaping the Bionics Institute's future by strengthening its focus on translating research discoveries into technologies that can improve lives.

Since joining the Institute as Chief Executive Officer in 2017, Robert has championed the journey from scientific discovery to real-world application, building connections between researchers, clinicians, industry partners and investors to accelerate innovation.

With extensive experience in biotechnology, healthcare and commercialisation, Robert has supported the Institute's researchers to develop new pathways for promising discoveries across hearing, vision, neurological health and emerging areas of medical technology.

A passionate advocate for collaboration, Robert has helped foster an environment where scientists, engineers and clinicians work together to solve complex challenges and create meaningful outcomes for patients. Reflecting his vision for the Institute's future, Robert says:

“As we continue to push the boundaries of medical research and device development, our focus remains on making a tangible impact on patients' lives.”

- Robert Klupacs

Through his leadership and commitment to translation, Robert has helped position the Bionics Institute to continue delivering life-changing innovations for generations to come.

Pioneers in hearing research

Original research team

Laureate Professor Graeme Clark AC
Peter Altidis
Katie Anderson
Professor Peter Blamey
Alison Brown
Gordon Brown
Perter Busby
Joseph Chang
Debbie Cook
Michael Denison
Shani Dettman
Richard Dowell
Burchard Franz
Margaret Gilmour
Mark Harrison
Helen Hodgens
Wai Kong Lai
Andy Lim
Professor Hugh McDermott
Judy McNaughtan
Costanza Maffi
Rodney Millars
Frank Nielsen
Chris Phyland
Dr. Brian Pyman
Dr. Peter Seligman

Professor Robert (Rob) Shepherd AM
Carole Smith
Dr. Joe Tong (Yit Chow Tong)
Enid Utton
Richard Van Hoesel
Robert Webb
Ross Willis
Professor Field Rickards
Alison Brown
Laurie Cohen
Louis Fanchette
Therese Kelly
Professor Colette McKay
Angela Marshall
Lesley Tan
Marcia Turner
Barbara Weight
Robert Cowan
Joseph Alcantara
Leslie Whitford
Jim Patrick
Professor Richard Dowell
Dr Robert (Bob) Briggs
Dr David Dewhurst
Dr Ian Forster

* Titles and roles reflect those held at the time.



After a short stint with Telstra in engineering administration tracking long term plans for telephone exchanges, I joined Professor Clark and his cochlear implant development team in a much more hands environment with added interest in helping my deaf grandfather and uncle.

“At that time Prof Clark had just started working the embryonic group that is now Cochlear. Back in those days it certainly wasn't clear that Cochlear and their implant would become as successful as it is today!”

- Mark Harrison
Bionics Institute Engineer

"In a way I'm surprised that the legacy of that project has been a series of research institutes that have bridged the gap between university research, health providers, and spin-off companies, and today's ongoing successes of the Bionics Institute. The biggest strengths through all this have been the cross-discipline collaborations with everyone bringing their own important work and ideas together.

Along with the enjoyable aspects of solving novel problems and design challenges, the opportunity to work in this environment with such a wide range of people is always inspiring and an endless journey of learning. It is certainly better than a desk job, especially when you have a Eureka moment that saves the day!" - **Mark Harrison**



"The Bionic Ear Institute (now Bionics Institute) was a wonderful place to develop my scientific career and knowledge. Working alongside a dedicated team, including Professor Graeme Clark, was a joy and I'm proud to have contributed to advancing cochlear implant understanding and outcomes."

- Professor David Grayden
Former Bionics Institute
Researcher (Pictured right)



"Over the decades that I worked with the Bionics Institute and the Bionic Ear Institute, we were like family. We were all in it together, with a common purpose - to help people and advance knowledge."

- Professor Peter Seligman
Bionics Institute Engineer



The early years: Professor Field Rickards

Professor Field Rickards holds a unique perspective on Bionics Institute history. He was one of a small group of researchers present in the Eye and Ear Hospital on 1 August 1978 when Rod Saunders, the first multichannel cochlear implant recipient, received his implant.

“We were watching the vision of Laureate Professor Graeme Clark and other surgeons performing the delicate surgery on Rod from a closed-circuit TV on the second floor of the building,” Field recalls. “I remember that that my wife Millie was also there. She was in the advanced stages of pregnancy with our daughter, Kate! She then saw her obstetrician who noted her high blood pressure.”*

It was a special moment for Field, who was one of a small group of Graeme’s first research students in 1971. Field’s partnership with Graeme flourished and he became the first lecturer of audiology in 1974. Throughout those years, the struggle to attract grant funding for bionic ear research led Graeme to an early adoption of philanthropy.

“The reviewers of Graeme’s grant applications were sceptical and said that the concept of a cochlear implant was a pipe dream,”

Field says. “So, he needed to adapt and to attract philanthropy, which in the academic setting was very unusual in the 1970s.” Graeme was influential in securing three National Hearing Foundation-sponsored telethons in the mid-1970s on Melbourne’s ATV-0 (now Channel Ten). The first of those telethons (31 October 1974) coincided with the first full-colour TV test broadcast on Sir Reginald Ansett’s station. Without philanthropy, Field believes that the world-changing cochlear implant project would not have progressed and achieved the extraordinary success seen today. “Public support was critical to us getting to the point where there was a proof-of-concept device,” Field recalls.

“At that time, the knowledge from fundamental research in auditory physiology and speech perception indicated what could be possible, but community support and commitment enabled the next phase of research and took us to the point where we could make a real impact.”

– Prof Field Rickards

Field subsequently helped raise funds to establish the first laboratories in the new building in the late 1980s for what became the Bionics Institute, before joining becoming a Board Director from 1988 to 2020. That journey, however, began with a novel idea and a lot of determination.

James McBride White

Dr James McBride White was the first President of the Institute. Alongside Laureate Professor Graeme Clark, he helped set up the Institute in Melbourne to coordinate academic research and clinical development of the bionic ear. He remained the President until his passing in 1992.

For many years Dr McBride White was a member of the Committee of Management of the Royal Victorian Eye and Ear Hospital, also serving, at times, as Vice President.

His vision and dedication to people with sensory impairment extended beyond his own field of ophthalmology as evidenced by his willingness to play an integral part in the establishment and development of the Australian Bionic Ear and Hearing Research Institute.

“Dr McBride will be sorely missed, however, his memory as a man of vision, purpose and compassion will remain.”

**- The Bionic Ear Institute Annual Report
1991-1992**



First Executive team of the Bionics Ear Institute

President - Dr. James McBride White, RFD, ED, FRACS, FRACO

Vice-President - Mr. James King

Director - Professor Graeme Clark, AO, MB, MS, PhD, FRCS(Edin), FRCS (Eng.), FRACS

Treasurer - Mr. James Beveridge, FAIM

Members

Mr. Graham Carrick

Mrs. Aline Darke

Sir Cecil Looker

Mr. Gordon Moffatt, J.P., FSIA

Mrs. Cate Rozario, BA, LLB

* Titles and roles reflect those held at the time.


THE AUSTRALIAN
BIONIC EAR INSTITUTE
FIRST
ANNUAL REPORT
1986 — 1987



The founding team

John & Janet Calvert-Jones

John Calvert-Jones AM and Janet Calvert-Jones AC were a key part of establishing the Bionics Ear Institute and served as two of the original members of the Board.

"The Bionics Institute represents inspiration by Professor Graeme Clark which has led to helping so many hearing-impaired people of all ages. With a hearing-impaired son, it inspired me to have confidence in the work being done. My time as a director of the BEI enabled me to be one of many who were able to help Graeme Clark in his research and marketing of the Bionic Ear".

John served as the second Chair of the Board; he and Janet have been instrumental advocates and financial supporters for the Bionics Institute over many years.



First Board of Directors

Sir Gordon Allard, FCA, FCA(NZ)
Professor Emeritus Peter Bishop, AO, FRS, FAA, DSC
Janet Calvert-Jones AM
John Calvert-Jones AC
Professor Emeritus Gunnar Fant, DSc (Sweden)
The Hon. Peter Howson, CMG, MA(Cantab) FAIM
Distinguished Professor Harry Levitt, BSc, PhD, (U.S.A.)
Sir Cecil Looker
Professor David Penington, MA, DM, BCh, FRCP, FRACP, FRCPA
Professor Emeritus Sir Sydney Sunderland, CMG, MD, BCh, DSc, FRACP, FRACS, FAA, Hon. LLD.
Sir Thomas Webb
Professor Emeritus Sir Douglas Wright, AK, BSc, Hon. LLD, MB, MS, FRACP

* Titles and roles reflect those held at the time.



John Stanhope AM

Championing innovation at the Bionics Institute

For 13 years, John Stanhope AM served the Bionics Institute with distinction as a member and Chair of the Board of Directors, bringing exceptional leadership, strategic insight and a deep commitment to the Institute's mission of improving lives through medical research.

He brought his experience of a distinguished 45-year career at Telstra, where he served as Chief Financial Officer and Group Managing Director, alongside an enduring record of leadership across Australian business and public life, including holding the office of Chancellor of Deakin University until 2025.

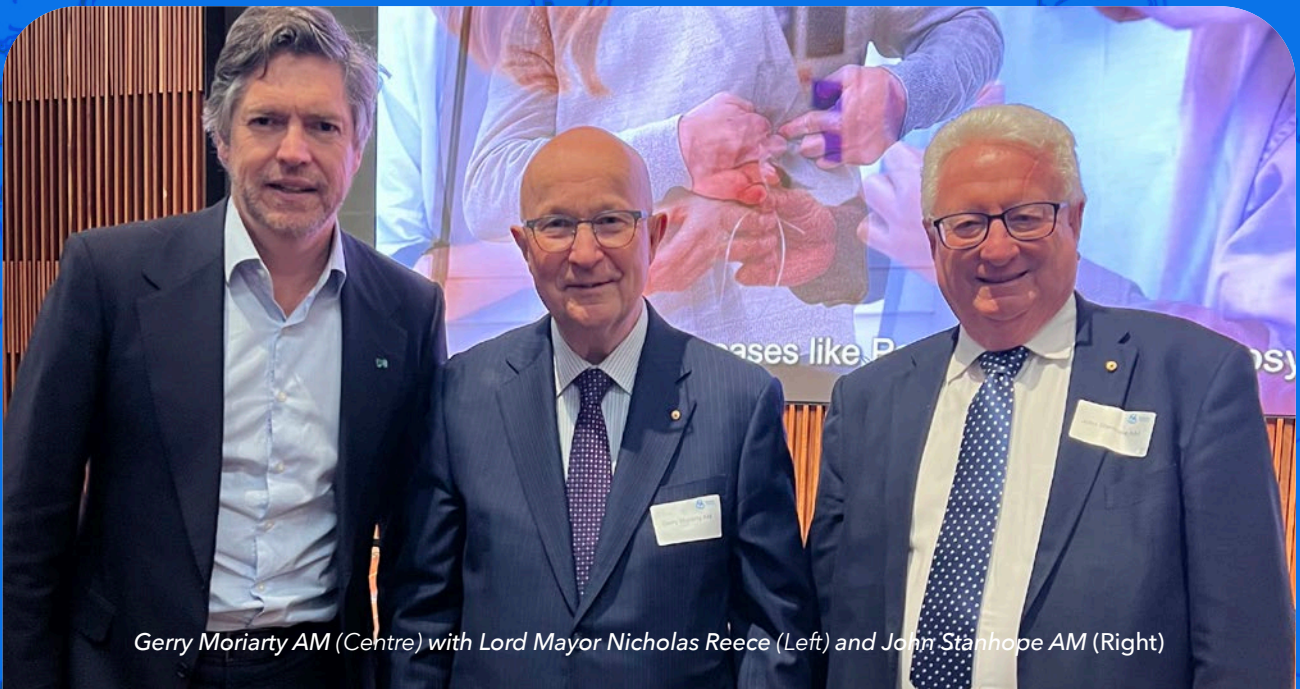
Under John's leadership, the Bionics Institute developed a commercialisation focus which has led to the formation of a number of spin-off companies, including Epiminder, Neo-Bionica, Cognitive Therapeutics, EarGenie and DBS Technologies.

Upon retiring from the Board in 2025, John made a generous contribution to establish the John Stanhope Incubator Fund, ensuring his commitment to nurturing discovery will continue into the future. This gift represents more than financial support; it reflects his belief in the potential of researchers to challenge convention, explore new possibilities and develop treatments that could change lives.

“Innovation is part of the DNA of the Bionics Institute and it's wonderful to think that my fund might be the catalyst for a future treatment that could help people live longer, fuller lives.”

- John Stanhope AM

His contribution to the Bionics Institute is a lasting legacy of generosity, foresight and faith in scientific innovation, helping ensure that promising ideas have the opportunity to become tomorrow's medical breakthroughs.



Gerry Moriarty AM (Centre) with Lord Mayor Nicholas Reece (Left) and John Stanhope AM (Right)

Gerry Moriarty AM

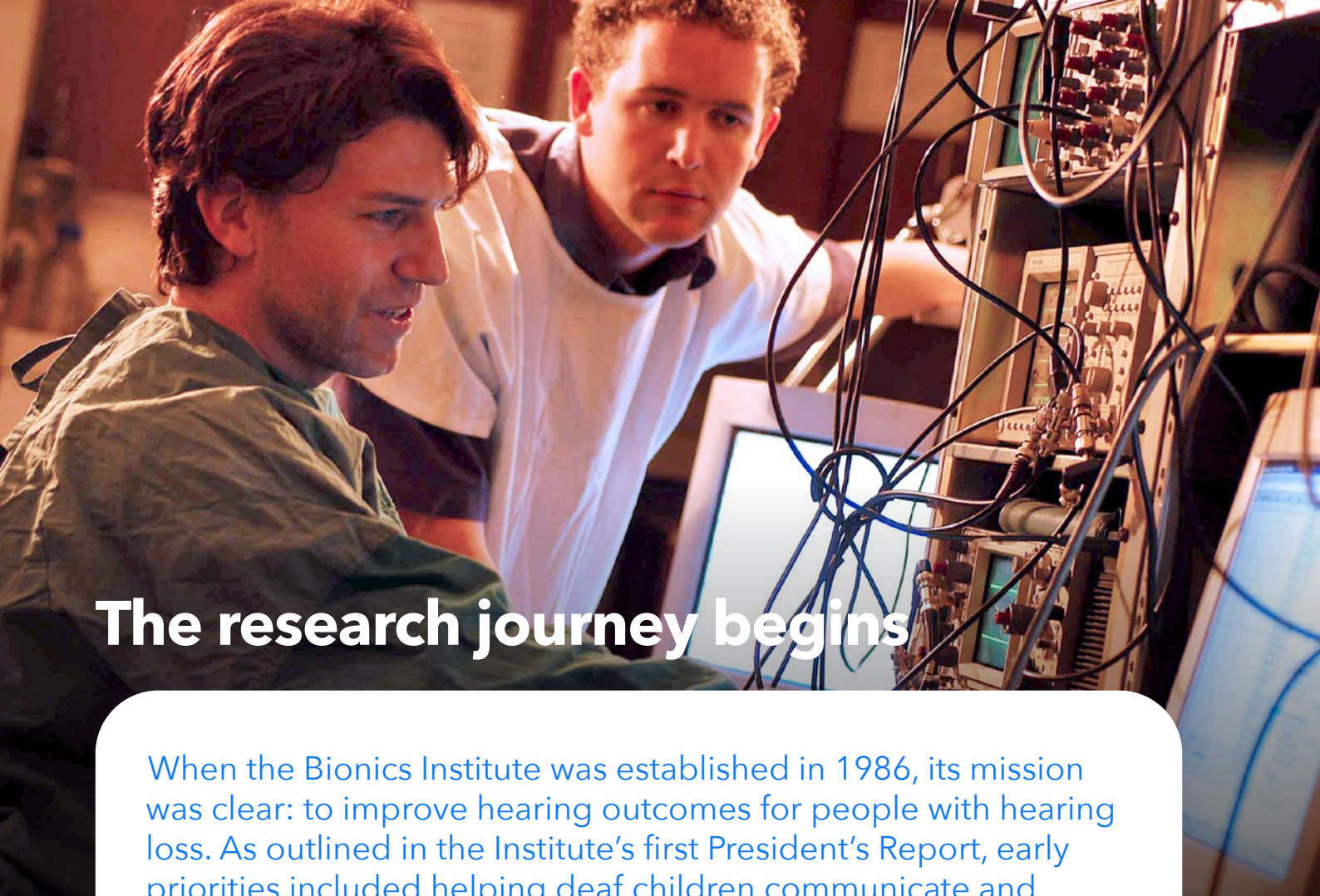
It was a great privilege to serve as Chair of the BI Board for approximately 17 years.

Initially conceived as the Bionic Ear Institute by Laureate Professor Graeme Clark the institute was a visionary concept to advance independent research into hearing improvement. Graeme could also see opportunities to apply the Institute's capability in other areas such as spinal cord injury.

During my time as Chair, I guided the Institute through Graeme's retirement as the founding Director and the appointment of Prof Rob Shepherd who significantly broadened the research focus into areas such as the Bionic Eye, deep brain stimulation to address Parkinson's tremor, Epileptic Brain monitoring and Vagus Nerve stimulation. This expanded focus led to rebranding as the Bionics Institute.

“The great strength of the Bionics Institute is its demonstrated ability to have scientists, engineers, medical clinicians, device manufacturers and patients collaborate to achieve successful research and commercial outcomes. This capability was embedded in the Institute's culture and way of working by Professor Graeme Clark right from its inception and remains an enormous strength today.”

- Gerry Moriarty AM

A photograph showing two men in a laboratory setting. One man, with dark hair and wearing a green shirt, is seated and looking at a computer monitor. The other man, with curly hair and wearing a white lab coat, is standing behind him, also looking at the monitor. To the right, there is a rack of electronic equipment with many cables connected to it. The scene is lit with warm, orange-toned light.

The research journey begins

When the Bionics Institute was established in 1986, its mission was clear: to improve hearing outcomes for people with hearing loss. As outlined in the Institute's first President's Report, early priorities included helping deaf children communicate and advancing technologies that built on the success of the cochlear implant.

Forty years later, hearing research remains critical for the Institute. From improving the early diagnosis of hearing loss to advancing cochlear implant technology and developing personalised hearing care, this work has transformed the lives of people with hearing loss while creating new technologies that continue to shape research across the Institute.

“There is a special need to help deaf children communicate. It is also important to capitalise on the many spin-offs from 15 years of research and so develop electro-tactile hearing aids and speech processing hearing aids.”

– Dr James McBride White (President's Report 1986)

The Bionic Ear Institute was focussing on four major areas in 1986:

- Cochlear implants for children
- Speech processing research (improving hearing outcomes)
- Engineering design studies (to improve the cochlear implant)
- Multi-channel electro-tactile prosthesis: “Tickle-Talker”

The work that began with an ambitious vision to restore hearing laid the foundations for four decades of research. While the Institute's research has expanded into new areas, improving lives through medical technology remains at its core.



40 YEARS OF *Progress...*

Explore the 40 years of bionic research and discover the amazing milestones and incredible research through the years.



1978

The Australian cochlear implant developed at the University of Melbourne Department of Otolaryngology is implanted by Professor Graeme Clark in the first patient, Rod Saunders



1981

Cochlear Ltd founded to commercialise the multi-channel cochlear implant



1986

Professor Graeme Clark founds the Bionic Ear Institute to undertake independent research into improvement of the cochlear implant



1991

Institute staff commence international workshops for surgeons and clinicians in collaboration with the Cochlear Implant Clinic and Co-operative Research Centre for Cochlear Implant, Speech and Hearing Research

1995

Cochlear Ltd listed on the the ASX.
Infant hearing research commences



1993

Mollison House purchased as home base for the Bionic Ear Institute



2000

Queen Elizabeth II visits the Bionic Ear Institute



2004

One of Melbourne's historic laneways is named Bionic Ear Lane in honour of the cochlear implant

Professor Graeme Clark wins the Prime Ministers Award for Science



2018

SPIN OFF
EpiMinder
Pty LTD



epiminder

2017

Robert Klupacs appointed CEO

Tinnitus research commences



2019

BI becomes first Australian medical research institute to receive internationally recognised accreditation for our Quality Management System (ISO 9001)

Rheumatoid arthritis research commences

SPIN OFF

Deep Brain Stimulation Technologies (DBST)

2023

Chronic pain research commences

2022

Alzheimer's research commences



2005

Epilepsy research commences

2006

Professor Rob Shepherd appointed Director



2011

The Bionic Ear Institute is rebranded as The Bionics Institute to mark the beginning of medical device research beyond hearing

Bionic eye research commences

Parkinson's research commences



2015

Crohn's disease research commences

2024

Balance disorder research commences



2025

Vagus Nerve Stimulation Centre of Excellence established to investigate VNS for over 20 conditions including Parkinson's, epilepsy, stroke, endometriosis and cancer

SPIN OFF
EarGenie Pty Ltd

Ear**Genie**®



2026

Digital twin platform research commences

SPIN OFF
Cognitive Therapeutics Pty Ltd (CogTx)



Research

Restoring hearing with therapeutics

The Bionics Institute's work to improve hearing has increasingly moved beyond devices, exploring whether damaged structures in the inner ear can be repaired. Today, researchers are developing a world-first therapeutic approach using nanotechnology to deliver growth factors directly into the inner ear.

Hearing loss affects nearly half a billion people worldwide, yet there are currently no drug treatments that can restore lost hearing. Bionics Institute researchers are developing tiny drug-carrying particles that can deliver growth factors to the inner ear, helping restore connections between sensory hair cells and nerve fibres. A key challenge has been delivering these therapies safely and effectively. Researchers have shown that their nanoparticle technology can extend the lifespan and improve the distribution of growth factors, bringing this research closer to potential clinical application. For Associate Professor Andrew Wise, this work represents more than two decades of research at the Institute.

"My research at the Bionics Institute (then known as Bionic Ear Institute) began in 2001 with my appointment as a post-doctoral researcher fellow to undertake research in regenerative therapies for the inner ear. The research program was led by Professor Graeme Clark and Professor Stephen O'Leary with a focus on developing clinically translatable technologies to improve outcomes for cochlear implant recipients. The research, its clinical application, and importantly, the research environment resonated strongly with me and began what has been a relatively long journey of scientific (and personal) discovery at the Bionics Institute.

My research focus has remained on the development of regenerative therapies, but perhaps with a wider vision on how the technology that we have generated at the Bionics Institute could impact other neurological conditions beyond the cochlear implant."

"The Bionics Institute retains that secret sauce of developing good ideas and innovation into clinical solutions to help people, and I am immensely proud to continue to work at the Bionics Institute towards that goal."

– A/Prof Andrew Wise

Head of Hearing Therapeutics Research Program





Digital hearing platform to revolutionise cochlear implant care

From the earliest days of the Bionics Institute, improving hearing outcomes has been central to its work. As cochlear implant technology has advanced, so too has the understanding that the best results depend not only on the device itself, but on how precisely it is programmed for each individual.

Today, cochlear implant programming remains a highly specialised and time intensive process, often relying on behavioural testing and subjective feedback. This can make it difficult to optimise settings for individual needs and everyday listening environments, particularly for young children who cannot provide reliable feedback.

Bionics Institute researchers are now taking the next step towards truly personalised cochlear implant care. They are developing a pioneering digital twin platform that will create a personalised, data driven model of each implant recipient's auditory system. By combining clinically validated measurements, computational modelling and artificial intelligence, the platform aims to assess the condition of the cochlea and auditory nerve, and to predict optimal implant settings.

This could reduce reliance on manual adjustments and behavioural feedback while making programming faster, more consistent and more precise.

The goal is to move cochlear implant care from standardised programming towards individualised, outcome driven care, helping more people achieve better speech understanding, and giving clinicians and families greater confidence in the technology.

For the Bionics Institute, it is the next chapter in a 40-year pursuit: using research and technology to help people hear better.

Combining technologies to improve speech understanding

The search for better hearing outcomes continues. As cochlear implants have evolved, they are now being used by people who retain some natural hearing, opening new possibilities for combining technologies.

Bionics Institute researchers are investigating how a cochlear implant and hearing aid can work together in the same ear. This combination has been shown to improve speech understanding, particularly in noisy environments, but we still do not fully understand how the brain combines electrical and acoustic signals into a unified perception of sound.

By measuring patterns of neural activity in response to speech, researchers are working to uncover how these signals are processed and integrated.

The research continues to question how we can use technology to improve hearing outcomes for those with hearing impairments.

Improving clarity of sound for cochlear implant users

As cochlear implant research progressed, Bionics Institute researchers began looking for ways to make electrical stimulation of the auditory nerve more precise. Electrical current can spread beyond its intended target, affecting neighbouring nerve fibres and reducing the clarity of sound.

The team explored whether light could offer a more selective approach. Using optogenetics, which combines gene therapy and light to precisely control specific nerve cells, researchers could activate targeted cells without affecting surrounding nerve fibres. Combining light and electricity then offered a new way to improve stimulation.

As the research evolved, so did its possibilities. The same approach could potentially be used to precisely control nerve pathways beyond hearing, opening the door to research into chronic pain.



Using light to help relieve chronic pain

Researchers then explored whether optogenetics could be used beyond hearing, demonstrating that the approach could selectively activate touch-related nerve fibres in the sciatic nerve.

This work opened new possibilities for treating chronic pain, where selectively targeting specific nerve fibres could reduce unwanted side effects. Researchers subsequently developed a world-first combined approach to stimulating a nerve using low-intensity light and a small electrical stimulus, achieving selective nerve activation while using less power than either method alone. For Professor Rachael Richardson, this progression from hearing restoration to targeted neural control has spanned more than two decades.

"I joined the Bionics Institute (then the Bionic Ear Institute) in 2001, just after completing my PhD in cancer research. Hired by Professor Graeme Clark, my initial mandate was to reverse hearing loss using neuroprotective proteins. To deliver these proteins safely to the cochlea, I explored novel biomaterial coatings and long-lasting gene therapies."

"A turning point came at a conference where I was introduced to optogenetics - a technique offering far greater spatial precision than traditional electrical stimulation."

– Prof Rachael Richardson
Head of Optogenetics Research Program

"With my background bridging gene therapy and cochlear implants, I recognized a unique opportunity: using light to precisely activate neural pathways. What began as an investigation into optical cochlear implants quickly expanded. I realised optogenetics could revolutionise a spectrum of neural devices, from vision restoration to deep brain stimulation and chronic pain management."

Bridging such diverse areas of neuroscience was challenging, but essential to uncovering how precisely we can interface with the nervous system. A key breakthrough was discovering that optogenetics allows us to target specific cell types within the complex nerve populations of the peripheral nervous system and spinal cord. Today, translating this targeted approach into long-term relief for chronic pain is a major focus of my research."

Over four decades, the Institute's expertise in hearing and neural technology has opened new pathways into some of medicine's most challenging conditions. Today, our researchers are applying this knowledge to understand, measure and treat diseases affecting the brain, nerves and body.

Establishing an objective measure of tinnitus

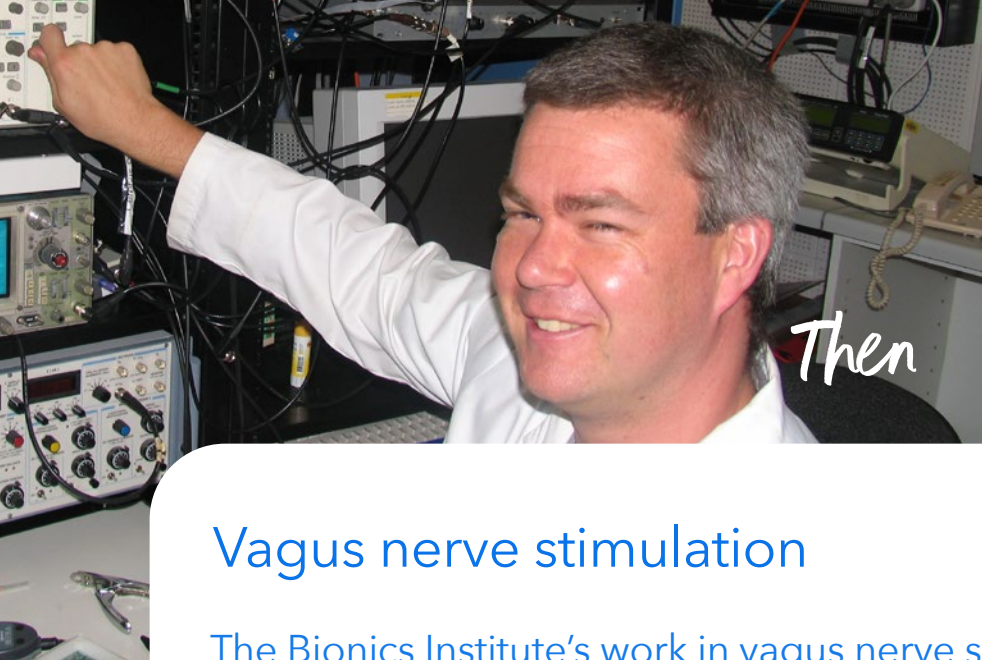
In 1986, the Bionic Ear Institute's research was focused on improving hearing for people with hearing loss, with cochlear implants and speech processing among its key priorities. Over the decades, this focus has expanded to explore the many ways the auditory system can be affected, including tinnitus.

Tinnitus affects up to one in eight Australians, yet diagnosing and monitoring the condition remains challenging. Unlike many medical conditions, tinnitus cannot currently be measured objectively. Doctors largely rely on each person's own reports of their experience of tinnitus, making it difficult to determine its presence, severity or response to treatment.

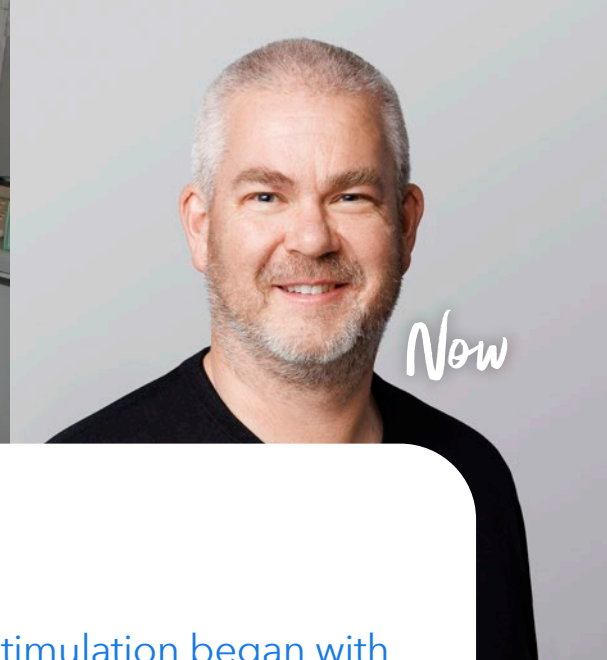
Bionics Institute researchers are developing a way to change this by measuring the brain activity associated with tinnitus.

Using a non-invasive optical imaging technique, a cap shines near-infrared light over the head to measure changes in blood oxygen levels in the brain. A number of studies have identified differences in brain activity between people with and without tinnitus, as well as differences associated with tinnitus severity.





Then



Now

Vagus nerve stimulation

The Bionics Institute's work in vagus nerve stimulation began with a bold question: could a medical device be used to harness the body's own natural pathways to treat disease?

Professor James Fallon was the pioneer leading the development of this research at the Institute. His work helped establish the foundations for using electrical stimulation of the abdominal vagus nerve to influence the body's natural anti-inflammatory response.

“Our abdominal vagus nerve stimulation (abVNS) program came about from a world-wide call from the United States Defense Advanced Research Projects Agency (DARPA) to develop an improved treatment for inflammatory bowel disease (IBD), as it is a major issue for their returned war fighters.”

– Prof James Fallon
Chief Technology Officer

“The Bionics Institute team, led by Professor Rob Shepherd, joined forces with colleagues from the University of Melbourne, led by Professor John Furness and Professor David Grayden, and Austin Health, led by Professor Peter de Cruz, to submit a proposal that included developing a novel approach to VNS. VNS had previously been shown to be effective in treating IBD when applied at the level of the neck.

We proposed to deliver VNS to the abdominal portion of the vagus nerve, with the aim of eliminating the unwanted off-target effects of cervical VNS, such as cough, hoarseness of voice and cardiac effects. We developed the technology and demonstrated that abdominal VNS could safely and effectively reduce inflammation.

We then moved towards clinical translation, developing a novel device that is placed around the abdominal vagus nerve and tell us if we are appropriately activating it and entering our current clinical trial, ElectRx. We have developed technology to monitor activity in the vagus nerve, which could potentially allow us to monitor the level of inflammation and adapt and customise stimulation based on an individual's needs at that moment,” says Prof Fallon.

“People ask why I have been at BI so long. Where else would I get to work with great people on challenging problems that will have a real-world impact on millions of people.”

– Prof James Fallon
Chief Technology Officer

The first major application was Crohn's disease, a type of inflammatory bowel disease, where the technology moved from an ambitious research concept towards human clinical testing. The first participant received the Bionics Institute device in 2023 as part of a clinical trial, with a further participant subsequently implanted, and recruitment continuing.

The potential of the technology extends far beyond inflammatory bowel disease. Research is now exploring whether abdominal VNS could be used to treat other autoimmune, neurological and chronic conditions, including rheumatoid arthritis. Associate Professor Sophie Payne led our efforts to expand the use of abdominal VNS to other conditions, notably rheumatoid arthritis. While we continue to explore indications including epilepsy led by Dr Tomoko Hyakumura, Parkinson's disease and stroke, we are also developing the next generation of abdominal VNS.

This growing body of research has led to the establishment of the Bionics Institute Vagus Nerve Stimulation Centre of Excellence, bringing together engineers, scientists and clinicians to investigate abdominal VNS across a range of diseases, including:

Inflammatory disorders | Brain disorders | Cancer

Today, Associate Professor Sophie Payne leads the Centre of Excellence, now expanded to include Dr Tomoko Hyakumura, Dr Nara Liu and Dr Matteo Senesi. Together building on the foundations established through years of research and helping take the technology into new areas of clinical investigation. Her research into rheumatoid arthritis is progressing through clinical trials, exploring whether targeted nerve stimulation could provide a non-drug approach to reducing inflammation and relieving pain and disability.

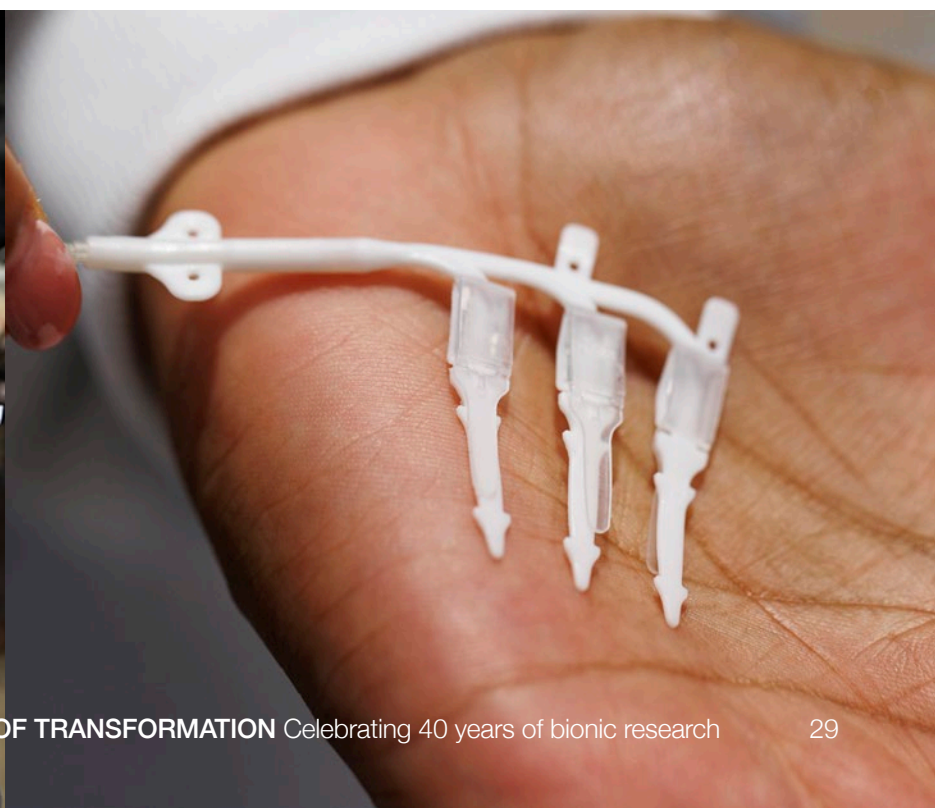
“We have a research pipeline geared towards trying to get this technology into clinics as quickly as possible if it's going to be a viable, useful, meaningful therapy”

– A/Prof Sophie Payne

Head of Vagus Nerve Stimulation Centre of Excellence

From its early work investigating vagus nerve stimulation for Crohn's disease to a Centre of Excellence exploring applications across multiple diseases, this research offers hope for people who are unable to take existing medications due to side effects or have not found them effective.

Through a non-drug approach that activates the body's own natural pathways, vagus nerve stimulation is opening new possibilities and treatment options.



Measuring neurological disorders of movement

For the very many people living neurological disorders that affect movement, accurately gauging whether they are getting better or worse can be difficult.

Currently, clinicians largely rely on bedside examinations to assess symptoms, making it challenging to measure subtle changes or track the effectiveness of treatments. Professor David Szmulewicz, Head of the NeuroMovement Research Group develops objective measurements of neurological diseases which result in movement abnormalities.

The research reflects the Institute's commitment to expanding its work into areas where new technologies can make a meaningful difference for people living with neurological disorders and limited treatment options.

The technology will facilitate the development of treatments, including gene therapies, for many of these diseases. Other applications will include supporting people living in remote communities with limited access to specialist care.



From the Tickle Talker to helping people walk



In the Bionic Ear Institute's first Annual Report, a key project included the development of a multi-channel electro-tactile prosthesis known as the "Tickle Talker".

Designed to deliver speech information through patterns of stimulation applied to the fingers, the technology explored how the nervous system could interpret patterns of sensory stimulation.

Decades later, this early technology caught the attention of researchers investigating an entirely different challenge: helping people with Parkinson's disease walk more safely. Parkinson's disease can make walking difficult for some, experiencing shuffling steps, difficulty starting or turning and an increased risk of falls. While medication and deep brain stimulation can help manage symptoms, they do not always restore normal walking.

“The concept of applying stimulation to the feet to address gait impairments, originated with neurologist Professor Robert Iansek who identified the limited availability of effective gait treatments in clinical practice. I had previously worked with Prof Iansek as post-doctoral research fellow and reconnected in 2021 to advance this idea.”

- A/Prof Mehrnaz Shoushtarian

The approach draws on decades of Bionics Institute research into how electrical and sensory stimulation can interact with the nervous system, while opening a new application for technology originally developed to help people communicate through touch.

The research is now being explored in collaboration with Kingston Centre at Monash Health in a clinical trial. If successful, this approach could provide a new, non-invasive way to help people with Parkinson's walk more confidently, reduce falls and maintain independence.

It is a powerful example of research finding new life, decades after it began. A technology conceived in the Institute's earliest years to help people hear through touch is now helping researchers explore whether stimulation through the feet can improve walking.



Improving cognition in Alzheimer's disease

The Bionics Institute's research into neuromodulation continues to open new possibilities beyond its original applications. Today, Professor Kate Hoy and her team are investigating whether stimulating the brain can improve cognitive function in people with Alzheimer's disease.

Alzheimer's disease disrupts networks in the brain, affecting communication between regions and contributing to cognitive difficulties. Using Transcranial Magnetic Stimulation (TMS), the team is currently conducting a randomised controlled trial investigating whether targeted personalised stimulation can help restore healthy brain network function. If the current trial shows positive results, the next phase will focus on the gathering evidence base required for regulatory approval of the personalised TMS treatment to ensure it can be accessed by those who need it.

“Working as a Clinical Neuropsychologist I saw the impact of Alzheimer's disease on clients and their families. The lack of effective treatment options for cognitive disorders like Alzheimer's inspired me to pursue a career in clinical research - to try and develop the treatments that were missing for my clients then and are largely still missing today.”

– Professor Kate Hoy

Head of Cognitive Therapeutics Research Program

“Development of an effective, safe, and accessible treatment for Alzheimer's would have a profound impact on those living with Alzheimer's as well as their loved ones,” she adds.

Alongside this research, the team developed SMART, a software designed to simplify the process of personalising TMS. Co-invented by Professor Hoy, Dr Oscar Murphy and Dr David Hill, the SMART software will enable rapid, seamless delivery of personalised TMS treatment. The technology is now being commercialised through Bionics Institute spin-off Cognitive Therapeutics Pty Ltd, further extending the potential impact of this world-leading research.



Extending brain stimulation research

The same focus on personalised, non-invasive brain stimulation is opening new possibilities for people experiencing cognitive changes associated with perimenopause.

More than 60% of people experiencing perimenopause report cognitive impairment, including difficulties with memory, concentration and word finding. Bionics Institute researchers are planning to investigate Transcranial Random Noise Stimulation (tRNS) as a potential treatment for these impactful cognitive symptoms. tRNS is a gentle form of electrical stimulation that can be delivered at home following appropriate training.

Professor Hoy plans to undertake a pilot study involving 30 women, with the potential to progress to a larger multi-site trial. Together, these projects show how the team's work is expanding the possibilities of non-invasive brain stimulation, from treating cognitive decline in Alzheimer's disease to addressing cognitive symptoms at another important stage of life.



The Bionics Institute Community

Behind every research breakthrough is a community that makes it possible. For 40 years, supporters have helped the Bionics Institute take ambitious ideas from early research towards technologies that can change lives.

Bertalli family's quarter century support for bionic research

For more than 25 years, Bionics Institute researchers have been supported by a wonderful partnership with the Bertalli Family Foundation.

A partnership that has significantly contributed to the development of the Bionics Institute's abdominal vagus nerve stimulation device that is in clinical trials for Crohn's disease and rheumatoid arthritis, and now under investigation as a treatment for epilepsy and Parkinson's disease. Neville says he and Di have very much enjoyed their partnership with the Bionics Institute and are especially proud of the support they have given to Professor James Fallon and his team.

“When we first met James over a decade ago the Institute was embarking on this groundbreaking research. We are delighted to support the Bionics Institute team to progress their research through to clinical trials, and look forward to seeing many more to come.”

– Neville Bertalli

Bionics Institute CEO Robert Klupacs said: “Neville and Di have seen the world benefit from the many leaps forward in medical research, like the cochlear implant. Their passion for ensuring the continued progression of innovative new treatments led to Neville spending many years sharing his extensive business knowledge as a member of the Bionics Institute Board, and their dedication has been instrumental in nurturing the next generation of brilliant minds to transform lives.

“Neville and Di's inspiring commitment to helping others through their support of medical research has had a major impact on the Bionics Institute that will last for years to come, and we are very grateful for their support.”



Victorian Lions Foundation support through the decades

In 1986, both the Bionics Institute and The Victorian Lions Foundation (VLF) were formed and have had strong ties ever since.

The Victorian Lions Foundation's longstanding commitment to the funding of Bionics Institute researchers has provided the long-term security they need to advance their research, and further the Bionics Institute's mission to research and innovate cutting-edge medical devices to solve medical challenges and transform lives.

Lions were instrumental in assisting the development of the cochlear implant, and they supported a Lions Hearing Research Fellowship and a Neurobionics Fellowship at the Bionics Institute for many years.

Victorian Lions Foundation secretary John Mitchell said: *"We have enjoyed a longstanding relationship with the Bionics Institute since the Lions supported Professor Graeme Clark's early work to invent a multiple channel cochlear implant. Since that time, we have been continuous supporters of the Bionics Institute."*

"We are more than proud to be able to stand up and say that Lions Clubs of Victoria and Southern New South Wales play a vital role in contributing to the Bionics Institute's projects."

– John Mitchell



Fast forward to 2026 and the VLF have renewed their commitment to support research at the Bionics Institute into the future. VLF will be funding research into tinnitus led by Associate Professor Mehrnaz Shoushtarian and research into chronic pain led by Professor Rachael Richardson.

Prof Richardson says: *"I am motivated to find new ways to reduce reliance on medications to treat chronic pain by a friend who is in constant pain. I recently discovered she has a psychiatric assistance dog who is funded by Lions. I'm very grateful to Lions for their incredible support for research at the Bionics Institute and the support they provide to my friend and people like her."*

Answering the call: Colleen and Tom's journey with the Bionics Institute

For almost three decades, Colleen and Tom have been part of the Bionics Institute community.

Supporting research that has transformed the lives of people with hearing loss, and which continues to advance new medical technologies.

Their connection began unexpectedly in the late 1990s, when Colleen was working at Telstra and noticed a colleague preparing for a telethon. Curious to help, she discovered the event was raising funds for the Bionics Institute. When the organiser mentioned needing four people to answer phones, Colleen quickly volunteered her family. "I've got four," she said. That moment saw Tom, their two children and a visiting relative from England become the first four people on the phones, beginning a relationship with the Institute that has lasted almost 30 years.

Colleen and Tom became supporters because they could see the impact of the Institute's work. They contributed as donors, volunteered at events and continued to follow the progress of research through stories of people whose lives have been changed by bionic technology.



“There's a picture of a young baby or young child... and it was the first time they'd heard sound and just that huge smile on the baby's face. It was lovely. It was gorgeous.”

– Colleen Donaldson

“I'm not technical, but my husband's an engineer. So for him... he can just appreciate the work and the expertise that has gone into it.” Over the years, Colleen and Tom have watched the Institute grow from its early focus on bionic hearing into a broader research organisation developing new technologies to improve lives. Their story is a reminder that scientific progress relies not only on researchers and clinicians, but also on a community of supporters who believe in the power of innovation.

Telethons

Between 1974 and 1976, three televised telethons on Channel 10 raised funds for the research and development of the cochlear implant.

The campaigns brought the emerging technology into people's homes and gave the community an opportunity to help turn an ambitious idea into reality. It was during this period that Professor Graeme Clark coined the name “bionic ear”, after television producers asked for a more memorable name for the cochlear implant. For Colleen and Tom Donaldson, it was as simple as volunteering to answer the phones.

“Someone said she was setting up for a telethon, so I went over to see if I could help. It turned out to be for the Bionics Institute. That's how my husband, children and our relative became the first four people on the phones.”

– Colleen Donaldson

Telethons *cont.*

That spirit of community support has continued for more than 50 years. Some of those early supporters remain part of the Bionics Institute community today, a remarkable connection between the people who helped launch the bionic ear and those who continue to support the next generation of research.

The Bionic Ear Ambassadors were established in 2002 and was made up of the parents of children with cochlear implant. The group got together regularly to share their stories and raise money for the Institute. They also took part in organising fundraising events over the years. Belinda is one of these parents, who is still involved with the Institute and shares how receiving a cochlear implant enabled her son Simon to achieve his dreams of becoming a pilot.

"The research of the Institute changed our lives, and I hope that by leaving a gift in my Will, then even when I'm gone, I can leave a legacy to help change someone else's life for the better."

Joyce Buckland

Joyce was a regular donor to the institute for many years, and her generosity supported several ground-breaking research programs. In 2022 Bionics Institute was saddened to learn of her passing.

Joyce's friends and family described her as having endless energy and an appetite to learn and grow, which is perhaps why she was initially drawn to the innovative work of Professor Graeme Clark and the Bionics Institute. Born in Ballarat in 1931, Joyce was the youngest of seven children. She trained as a nurse in Ballarat and Melbourne before working at Geelong Hospital, where she became a respected nursing educator and later lectured at Deakin University. Her nursing career also took her to the UK, inspiring a lifelong love of travel.

Joyce became connected to the work of Professor Graeme Clark and the then Bionic Ear Institute through her sister, Ruth Morris, who was a teacher for deaf children in the 1970s. We are so grateful that Joy's generous spirit lives on through a significant Gift in Will, helping to sustain our life-changing research into the future.

"She acted from the heart, keeping in mind the hearts of others."

- Friend of Joyce Buckland



The Ladies Committee

The Ladies Committee was a great help in fundraising activities in the early 90's. They were successful in funding many needs including vital equipment.



Bionics takes on ...

December 2021 saw the first of our 'Bionics takes on ...' events, with 40 staff, friends and family hiking 1,986 metres to the top of Mt Bogong, Victoria's highest peak. The initiative was a wonderful opportunity for our team and their loved ones to come together, challenge themselves and, most importantly, have fun, while raising money for the Institute's life-changing research.

In 2023, 'Bionics takes on the Yarra' saw our community hike 16 kilometres along the banks of the beautiful Yarra River in the Institute's hometown of Melbourne.



Celebration Event Awards

Each year, the Bionics Institute brings together researchers, supporters and collaborators for our annual Celebration Event, recognising the people and partnerships that make our work possible.

The event is an opportunity to reflect on achievements, celebrate progress and thank those who contribute to our mission. It also brings our community together to share the possibilities emerging from research across the Institute and look towards the future. The Celebration event has also provided an opportunity to recognise outstanding contributions through two special awards:

Bionics Institute Visionary Award

Recognising outstanding scientific achievement, research leadership and a commitment to inspiring the next generation.

Recipients:

- Laureate Professor Graeme Clark AC (2024)
- Professor Mark Cook AO (2026)



Bionics Institute Catalyst Award

Recognising outstanding partnership through philanthropy, impact investment, volunteering or service to the Institute.

Recipients:

- Neville and Diana Bertalli (2024)
- John Stanhope AM (2025)
- Roger Gillespie OAM (2026)



Creating a lasting impact

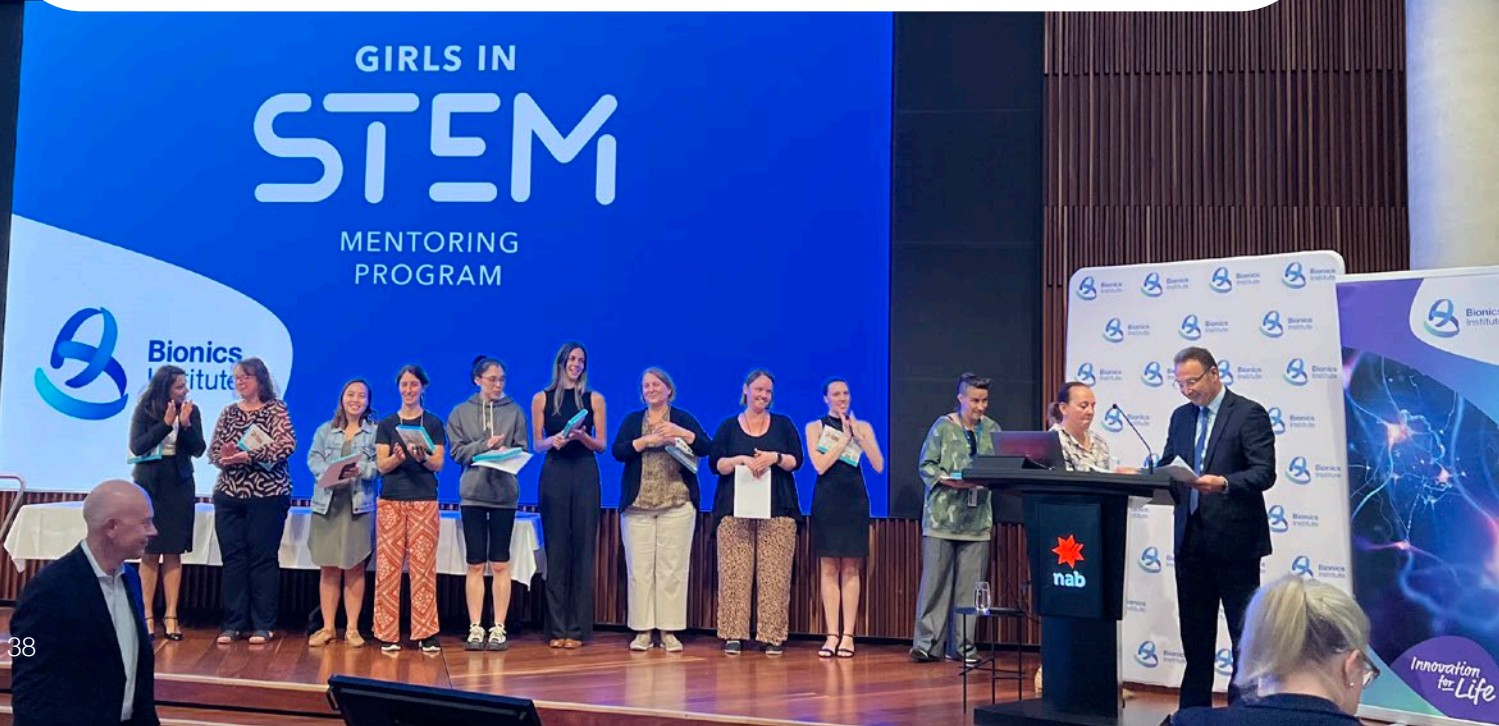
The Bionics Institute Girls in STEM Mentoring Program aims to inspire high school students to study science, technology, engineering or mathematics at university.

The program began in 2017, with just two students from Ivanhoe Girls' Grammar School. By 2023, the program was expanded to 72 students from 18 schools.

veski is now leading the Girls in STEM Mentoring Program started by the Bionics Institute to give Year 10 and 11 students the opportunity to be inspired by leading women in STEM. The program continues to grow and expand its reach under Stephen and Angela Tomisich's guidance.

“Science and discovery benefits by considering different views and perspectives. Building a more balanced gender mix, not just in science but also in engineering and mathematics, enriches that pool of potential and talent to benefit all involved.”

– **Stephen Tomisich**
Chair of veski



Passe & Williams Foundation supporting research excellence for 40 years

The Passe & Williams Foundation* has been integral to the successes and achievements of the Bionics Institute since both organisations were founded in 1986.

Established by Barbara Williams to honour her two husbands, Garnett Passe and Rodney Williams, the Foundation was one of the largest bequests to Australian medicine, and has, to date, donated \$99.5 million to more than 440 ear, nose, and throat research projects.

“The Passe & Williams Foundation funds only the best people and projects in the Australian and Aotearoa New Zealand Ear, Nose and Throat (ENT) field. The Bionics Institute is a hive of excellence in medical research, with an impressive track record of generating life-changing outcomes. It is always a pleasure to support the Institute and its exceptional people.”

– Dr Jeanette Pritchard

Passe & Williams Foundation CEO

The Institute is built on the innovation of researchers, scientists and engineers who drive our research and accomplish incredible things. A long and distinguished line of Bionics Institute researchers have benefited from the support and funding from the Passe & Williams Foundation.

One Junior Fellowship recipient, Dr Darren Mao, said: *“The Passe & Williams Fellowship has been a rare and wonderful opportunity for me. It has provided crucial funding for our research into improving language outcomes for infants born with a hearing loss, which will lead to significantly improved quality of life. The fellowship has also enabled me to further my development as an up-and-coming researcher and leader.”*

Bionics Institute CEO Robert Klupacs says that the Passe & Williams Foundation’s support for researchers at every stage of their career is why they have had such an enormous impact on the ENT field and the Bionics Institute.

“Passe & Williams Foundation awards range from research grants, PhD scholarships and junior fellowships through to senior fellowships, ensuring that researchers are fully supported to develop professionally and focus on their research.”

“Their support is behind every major breakthrough in hearing research at the Bionics Institute.”

– Robert Klupacs

Bionics Institute CEO



Senior Research Fellows, Prof Robert Shepherd and Prof Colette McKay



Junior Fellowship recipient, Dr Darren Mao

*Passe & Williams Foundation is a registered business name of The Garnett Passe and Rodney Williams Memorial Foundation.



The Leona M. and Harry B. Helmsley Charitable Trust

In July 2024, The Leona M. and Harry B. Helmsley Charitable Trust committed AUD\$4.8 million (USD \$3.2 million) over three years to fund the development of a world-first, personalised, electrical treatment for Crohn's disease.

Finding new ways to prevent and treat Crohn's disease is a key focus for the New York-based organisation. Dr Jessica Langer, Program Officer at the Helmsley Charitable Trust, says current treatment options are insufficient to meet the needs of people with Crohn's disease and are often only effective in a subset of patients or lose efficacy over time. *"We are excited to support this novel, adaptive treatment approach, which holds promise to improve the lives of people with Crohn's disease."*

Led by Bionics Institute's Professor James Fallon and A/Prof Sophie Payne, researchers started work on upgrading a Bionics Institute vagus nerve stimulation device, currently in clinical trials for Crohn's disease, into an intelligent device that monitors inflammation and adjusts therapeutic stimulation in real time.

"The current version of this device is programmed to give three hours of electrical stimulation per day with the intention of keeping patients with Crohn's disease in remission. We aim to design a new version of the device that stimulates the nerve only when inflammation is detected – essentially delivering personalised therapy."
- Professor James Fallon

A/Prof Payne says that despite advances in drug therapies, 70% of patients with Crohn's experience recurring symptoms after a period of remission, usually requiring surgery to remove diseased parts of their bowel.

"We hope our drug-free device leads to a day when people with Crohn's disease have better quality of life and won't have to depend on medication or need invasive bowel surgery."

– A/Prof Sophie Payne

Roger & Lesley Gillespie

"It's been an exciting journey, being on the Board of the Bionics Institute and supporting its endeavours. It's a 40-year-old institute with a young, start-up mentality and I've really enjoyed watching it grow and flourish."

Entrepreneur and philanthropist Roger Gillespie OAM was a Bionics Institute Board member from 2014 until 2023 and knows the Institute well. He has lived with hearing loss for many years and was initially interested because the Institute was renowned for the cochlear implant and hearing research. However, he says he soon realised that the Bionics Institute was very different to other medical research organisations due to the fact that it's small and agile, and very focused on commercialising medical devices to ensure they reach patients.

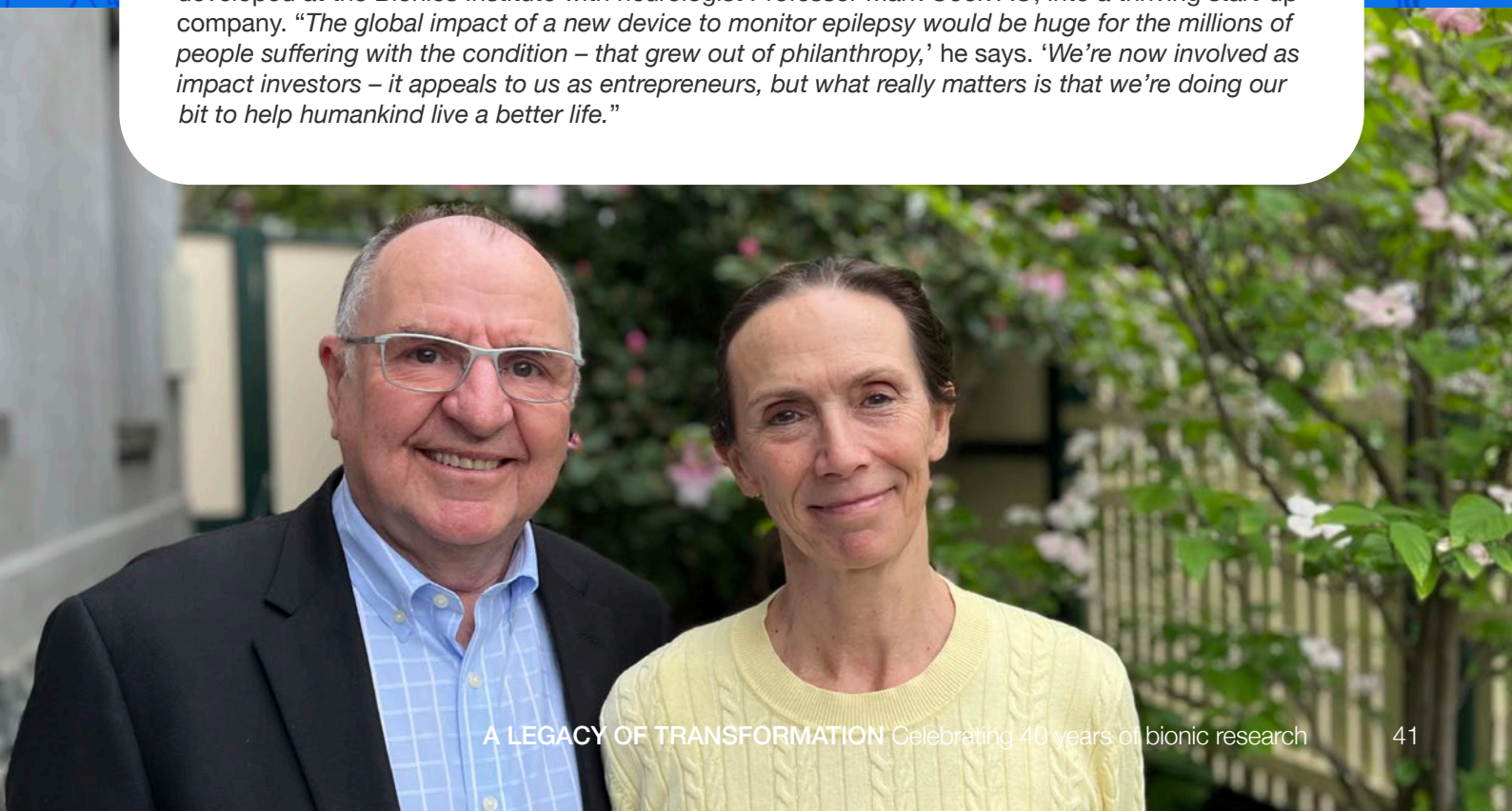
"I've met many researchers at the Bionics Institute who have arrived with brilliant ideas and developed amazing new treatments and diagnostic tools. It has been mentally stimulating and very fulfilling."

– Roger Gillespie OAM

Roger co-founded Bakers Delight with his wife Lesley in 1980 and together they built the business into the largest chain of bakeries in Australia, now run by their daughter Elise Gillespie and her husband David Christie. The business in North America (trading as COBS Bread) is run by their son Aaron. For everyone in the family – Roger, Lesley, Elise, David and Aaron, as well as Aaron's wife Meghan – running a business goes hand in hand with giving back to the community. Lesley says it's all about the people and the family give to the Bionics Institute through the Gillespie Family Foundation because they see the long-term benefit.

"We back great people doing great things, and there are some very special people working at the Bionics Institute," - Lesley Gillespie OAM

Roger agrees and says it's been a joy to see the evolution of an epilepsy monitoring device, developed at the Bionics Institute with neurologist Professor Mark Cook AO, into a thriving start-up company. *"The global impact of a new device to monitor epilepsy would be huge for the millions of people suffering with the condition – that grew out of philanthropy,"* he says. *"We're now involved as impact investors – it appeals to us as entrepreneurs, but what really matters is that we're doing our bit to help humankind live a better life."*



Supporting passionate researchers

Adrian and Louise were impressed by the Bionics Institute's research and focus on medical device technology. Their first donation supported tinnitus research.

“We first made a donation towards research into a diagnostic test for tinnitus at the Bionics Institute and we were delighted to hear that it is now being used to test the effectiveness of experimental treatments. It's wonderful seeing research turned into practical applications and treatments that can change people's lives.”

– Adrian Rijs

They now support A/Prof Sophie Payne's research into vagus nerve stimulation as a treatment for rheumatoid arthritis. Louise says: *“Sophie is so passionate about her research and I'm very impressed that she has taken this research from the seed of an idea into clinical trials in a few short years. We can't wait to see the outcome of the trial. This research is particularly important to all rheumatoid arthritis sufferers, which I know firsthand as it has affected my mother, aunt and now me for the last 35 years. What is even more devastating to know is that the condition can affect people even as early as their teens. Hopefully A/Prof. Payne's research will soon bring hope and relief to those afflicted with this disease.”*

The Bradey Family

“Several years ago, my late father John asked me what charities I thought were good to give to.”

“I responded by saying the Bionics Institute and that was the end of the conversation. I now realise he and my mother Madie must have been writing their Will.” After her parents passed away, Ros Bradey discovered they had left their shares to medical research charities chosen by their children. Remembering that conversation, Ros selected the Bionics Institute. *“My brother suggested to me that I choose the charities and that he would deal with the rest of the Will. I chose two, and one of those was the Bionics Institute.”*

Ros had begun supporting the Bionics Institute after her son George lost his hearing as a baby following meningitis. After receiving a cochlear implant, George went on to attend his local school, graduate from university and now works as a botanist in Brisbane.

“We are incredibly grateful to Professor Clark and all the researchers at the Bionics Institute - they have made such a difference to our life - and I'm so glad I've been able to give back to them with the help of my wonderful parents John and Madie.”

– Ros Bradey



Reflections on the groundbreaking endeavours of the Bionics Institute by Jenny Cook

The scope, reach and contribution of the Bionic Institute to medical science and humanity over the years has been astounding.

From the amazing development of the cochlear ear, the Bionic Institute has expanded its research endeavours to other challenging areas including vision, auto immune and chronic disease conditions, movement and balance disorders, and brain diseases.

The Institute has developed diagnostic tools, therapies and devices to tackle and provide solutions for seemingly intractable medical conditions. These breakthroughs have only occurred through the collaborative efforts of scientists, engineers and clinicians who have thrived within the culture of the Bionics Institute to produce transformative solutions, outcomes and hope for those people suffering from debilitating medical conditions.

“My husband Bill and I, as long-term supporters of the Bionics Institute, continue to be impressed by the passion, enthusiasm and dedication of its researchers and the ingenious products designed and produced by this creative brains trust.”

– Jenny Cook

“We find this this organisation’s continual expansion of the frontiers of medical science allied with technology to be very exciting and most worthy of our ongoing financial support.”



Today & beyond

"Mollison House" was the headquarters of the Bionics Institute after its purchase in 1989. In 2009 we opened a second site for Bionics Institute within the Daly Wing at St Vincent's Hospital Melbourne.

In 2024 we moved from Mollison House and consolidated everyone at our St Vincent's site as we geared up for our move into the Aikenhead Centre for Medical Discovery (ACMD). In 2026 we moved into the ACMD - Australia's first hospital-based biomedical engineering research centre. Marking the beginning of a new era, the Bionics Institute is one of seven independent partners sharing the new building.

The Bionics Institute will benefit from co-location and collaboration with leading universities, research institutes and major industry partners.



Our research focuses on building the data required to secure intellectual property, establish safety and efficacy of devices in preclinical models, and run first-in-human clinical trials.

Our translational model is based on seeking investors for a spin-off company. This usually occurs around the time we generate initial human clinical data with our technology.

The company can then employ experts in product and corporate development, regulation and reimbursement.

This team coordinates funding rounds, runs larger clinical trials, engages with clinicians who will eventually use the device, obtains regulatory approval, and works to ensure governments and insurers cover a proportion of the device cost for patients.

Highlights from our commercialisation journey include:



Epiminder Pty Ltd

Professor Mark Cook came to the Bionics Institute in 2011 with a vision to create a device that could continuously monitor seizures in people with epilepsy. Working with Institute engineers, he helped develop Minder®, an implantable brain monitoring device. Epi-Minder was established in 2018 to translate the technology into clinical use, reaching FDA authorisation in 2025 and listing on the ASX as a new chapter in its journey from research to impact.



Neo-Bionica Pty Ltd

The opening of new manufacturing facility Neo-Bionica on 28 September 2021 saw the beginning of a new era in medical device development capability in Victoria. It was the first facility in Australia with the bioengineering expertise and technology needed to create medical devices for clinical trials.

A joint initiative of the Bionics Institute and the University of Melbourne, the state-of-the-art laboratory is located at St Vincent's Hospital Melbourne. Since 2021, this spin-out has contributed to the global med tech ecosystem through specialist medical device prototyping.



Cognitive Therapeutics Pty Ltd

Cognitive Therapeutics Pty Ltd (CogTx) established in 2026, is developing software co-invented by Bionics Institute researchers Professor Kate Hoy, Dr Oscar Murphy and Dr David Hill. Chaired by Professor Graeme Samuel AC, CogTx will develop the software-based technology through to expected FDA approval and subsequent clinical deployment worldwide, as well as undertaking ongoing clinical trials investigating personalised TMS as a treatment for Alzheimer's.



EarGenie Pty Ltd

Early diagnosis is critical to ensuring children with hearing loss receive timely intervention and the best opportunity to develop speech and language. Led by Professor Colette McKay, EarGenie® was developed as an innovative hearing assessment system designed to enable earlier diagnosis and management of babies with hearing impairment.

Deep Brain Stimulation Technologies Pty Ltd

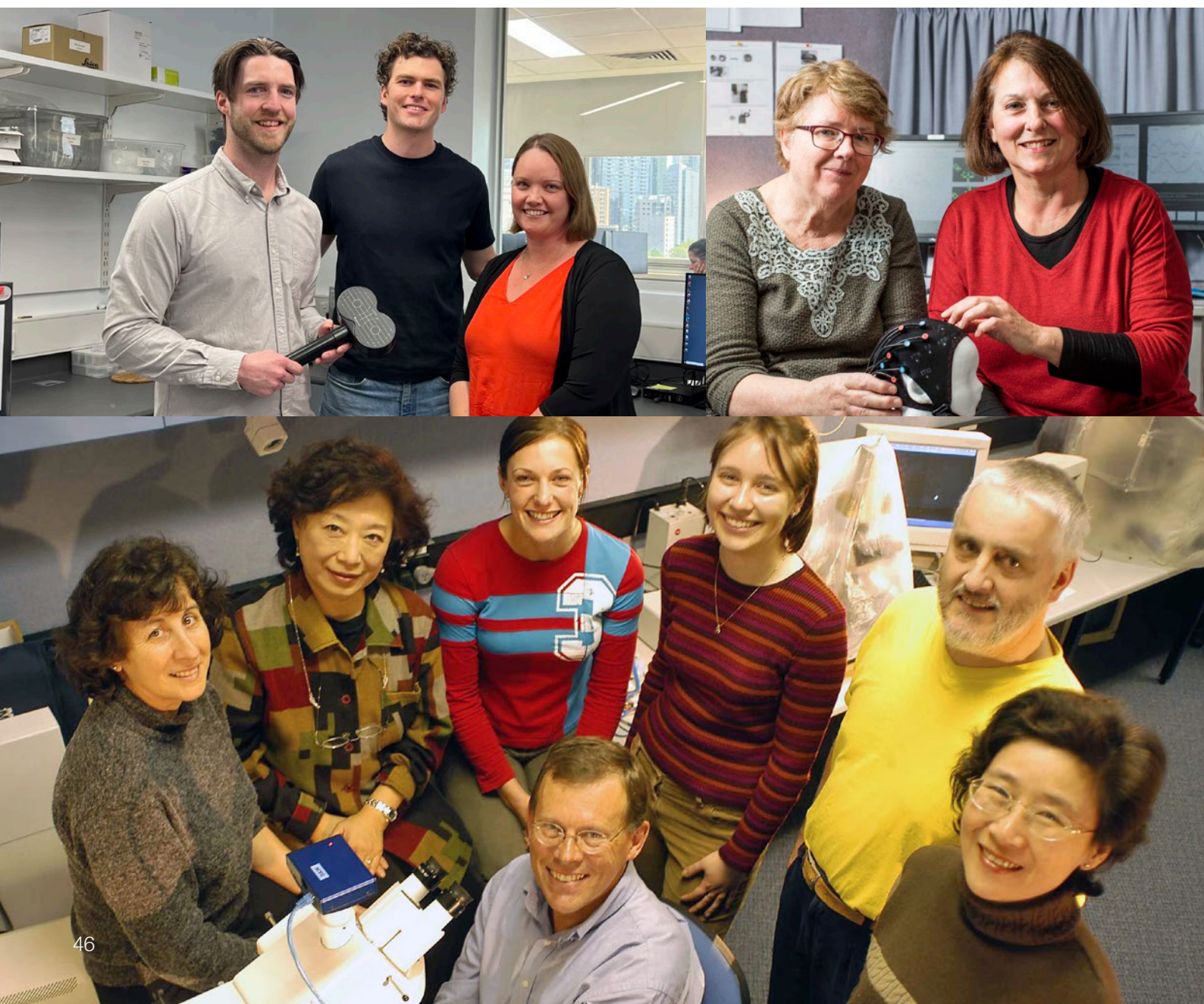
Deep Brain Stimulation Technologies (DBST) was established by the Bionics Institute in 2019 to commercialise new technology that enhances deep brain stimulation used in the treatment of Parkinson's disease. Founding investors in the company included the Bionics Institute and other institutional and private investors.

Swinburne University of Technology partnership

In 2026, the Bionics Institute announced a strategic partnership with Swinburne University of Technology in a first-of-its-kind collaboration to accelerate the development of life-changing medical devices.

Swinburne and the Bionics Institute are combining their cutting-edge facilities, scientific expertise and resources to progress medical device innovation into the clinic for the benefit of patients worldwide.

The partnership builds on decades of experience across both organisations. The partnership provides BI with access to Swinburne's fundamental research and next-generation facilities, including Australia's only single-site human imaging facility offering both magnetoencephalography and magnetic resonance imaging. It also opens opportunities for commercialisation funding through Swinburne Ventures, creating a pathway to turn breakthrough research into real-world solutions. The collaboration also aims to give Swinburne students hands-on experience at the forefront of medical research, development and innovation, strengthening Australia's future STEM and medtech workforce.





A portrait of Amy Morley, a woman with dark brown, shoulder-length wavy hair and bangs, smiling at the camera. She is wearing a black long-sleeved top. The background is a soft, out-of-focus grey.

“I started here in hearing research in 2011 and over time I have watched the evolution of the technologies that BI was using for those studies be revolutionised into potential therapies for many chronic conditions. It always amazes me that my small part in research has such a real-life contribution to helping people. Working with great people and being a part of bringing their ideas to fruition is very fulfilling.”

- Amy Morley

Senior Research Assistant



**For 40 years, the Bionics Institute
has turned ambitious ideas into
technologies that change lives.**

**The next 40 years hold endless
possibilities.**

With bold research, strong partnerships and the generosity of our supporters, we will continue to expand what is possible, translating innovative medical devices from the laboratory into solutions for people living with challenging conditions.

Thank you!





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Institute**