

2014



ear science institute australia | Annual Report 2014

Milestones

- Publication of 32 peer-reviewed journal articles during 2014
- Advanced Ear Surgery Asia Pacific Master Class Surgical Training Workshop
- Success of the 2014 Charity Dinner and Gift of Hearing Appeal
- Hearing Awareness Week seminars and the Extending the Boundaries broadcast to remote and rural communities
- ESIA Symposium 2014: A Life Worth Hearing
- Visiting professors and academics



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About the Ear Science Institute Australia

The Ear Science Institute Australia (ESIA) is an independent not-for-profit organisation dedicated to improving ear and hearing outcomes through education and translational, solutions-based research (patient-to-laboratory-to-patient). Our approach is multi-disciplinary in nature, employing skills from diverse fields such as otolaryngology, audiology, engineering, computer science and molecular and cellular sciences. With robust and dynamic links between researchers and clinicians, ESIA also holds a strong educational and training mandate. ESIA is uniquely placed to resolve the issues faced by the one in six Australians who live with hearing loss by drawing on a dedicated ear health focus, expert staff and collaborative relationships that span the globe.

Established in September 2001, ESIA was originally named the Lions Ear and Hearing Institute (LEHI) in recognition of Perth's Lions Club members, in particular, the decades long work of Lions Hearing Foundation in hearing screening. The close relationship between ESIA and the Lions Foundation and Club membership continues.

The Institute's Director Winthrop Professor Marcus Atlas was appointed Foundation Professor of Otolaryngology at The University of Western Australia (UWA) in 2001 with his chair funded by the Garnett Passe and Rodney Williams Memorial Foundation. The Ear Sciences Centre in the School of Surgery at UWA is also headed by Professor Atlas.

ESIA is affiliated with a number of key local, national and international organisations, including UWA, key Western Australian teaching hospitals and the Government of Western Australia's Department of Health, in addition to international medical groups.

Key Activities



Research

We conduct world-leading research that is evidenced by its scientific rigor and quality. Our research outcomes are applied to improve the quality of life for people with ear and hearing disorders.



Education and Training

We deliver best in class hearing health education and skills training to a wide range of medical and health professionals so that they can deliver quality care.



Clinical Services

We provide internationally renowned clinical services.



Community Service

We advocate hearing health and work actively within the community to promote the importance of prevention, treatment and management of ear and hearing disorders.

Our Vision

A centre of excellence enhancing the lives of people with ear and hearing disorders

Our Mission

We are dedicated to helping people with ear and hearing disorders through research, education, prevention and treatment.

Values

ESIA's values guide us in the way we work and how we serve our clients.

Excellence

- We demonstrate an unwavering commitment to excellence.
- We are motivated to exceed expectations and discover more.
- We celebrate our world-class achievements that bring professional respect.

Success

- We focus strongly on ground-breaking solutions that enhance peoples' lives.
- Our independence and experience free us to devise the most appropriate care.
- Our leadership position inspires collaborative work that delivers the best results.

Innovation

- We challenge boundaries and technology to lead and think outside the square.
- Our experience, creativity and drive ensure we remain at the forefront of our profession.
- We search relentlessly, excited by possibilities, to discover new and better outcomes.

Authenticity

- We remain honest, open and approachable always with colleagues and patients.
- Our integrity and sincerity ensure we promote and provide patient-focused clinical care.
- We foster and encourage a supportive and professional environment for all.

Chairman's Report



The last year was an exceptional year for us at the Ear Science Institute of Australia (ESIA) and, as Board Chairman, it's with pleasure that I welcome you to our 2014 Annual Report.

For the year ahead, we aim to ensure ESIA maintains its international status as a premier medical institution. We will continue to focus on our three strategic priority areas:

1. Creating a self-sustaining, world-class organisation
2. Continued progress in our 'Four Pillars' of:
 - Research
 - Clinical Services
 - Education and Training
 - Community Service
3. Further development and effectiveness of our research which in time will involve the addition of more resources

In support of our strategic objectives, the ESIA research team has achieved collaborations and joint research grants with major international universities to increase our reach and ensure we are seeking new and innovative research partners.

Philanthropy has become incredibly important to the effective operation of ESIA. The Gift of Hearing Appeal and Charity Dinner has become our major source of annual fundraising. This annual appeal enables the ESIA to assist at least two worthy recipients each year to be fitted with cochlear implants, enabling them to lead enriched and more independent lives. Additionally,

with over \$2.2 million raised since the launch in 2011, the main impact of this has been to support and develop our research and community involvement in awareness and prevention of hearing loss. This work was bolstered by a further \$300,000 in competitive community grant funding.

This year we welcomed our inaugural Patrons to ESIA, Nobel Laureate Professor Barry Marshall AC FRACP FRS FAA DSc and the Honourable Mr Malcolm McCusker AC CVO QC. Professor Marshall was awarded the Nobel Prize for Physiology or Medicine in 2005 for his revolutionary research into peptic ulcer disease and additionally received the Companion of the Order of Australia. Mr McCusker, of the McCusker Charitable Foundation, is a highly regarded barrister, philanthropist and renowned as the 31st Governor of Western Australia who was appointed the Officer of the Order of Australia in 2005. Both have an exceptional reputation in the community, particularly in the medical research fields and we are honoured to include them within the ESIA as Patrons.

We farewell and sincerely thank Emeritus Professor Donald Robertson who has served as a Board member while also Chairman of the ESIA Research Committee. I extend the gratitude of the Board to Professor Robertson for his contribution to the development of a strong research foundation for the Institute.

The Board welcomes the appointment of Mr Peter Millington. Initially volunteering on the ESIA Research Committee, Peter has become greatly involved with ESIA. His wealth of experience and enthusiasm is a warmly welcomed addition to the ESIA Board.

To ensure ESIA continues to be at the forefront of world-leading and truly holistic ear science, I gratefully acknowledge the support of my fellow Board members, who I would like to thank for taking the time away from work and family commitments. To our Director and Trustee Professor Marcus Atlas, once again, we wish to thank you for your vision, drive, dedication, world class medical skills, for your continued leadership and example. I also wish to thank our Chairman of Trustees, Mr George Jones AM CitWA for your continued support, leadership and guidance. Additionally, I would like to acknowledge and make special mention of our wonderful, talented and dedicated staff, many of whom are highly trained audiologists who are at the highest levels of their professions. We have a superb team and I take this opportunity of thanking them and I'm looking forward to working with them in the new year.

I take this opportunity to farewell and thank Dr Brett Robertson, our CEO for his excellent management and dedication to his work during his term. Brett's passion to help the hearing health of our community along with his strong leadership and ability to maximise opportunities has seen the Institute grow considerably over the past seven years and for this we thank him. We wish him every success in the next stage of his career and he leaves ESIA in the hands of a united, capable and committed team.

Additionally, the continued benevolence of our community, corporate donors and supporters is gratefully acknowledged. Similarly, the depth of ongoing support of Lotterywest has been invaluable and sincerely appreciated. More than ever health and medical research is demonstrating its importance to our nation and our standard of living and, after an exciting year, we look forward to even greater success in 2015.

Mr John Schaffer
Chairman

Director's Report



The Ear Science Institute Australia (ESIA) has a clear mission to significantly improve the lives of people in our community and around the world by improving hearing. In this, my fourteenth year as Director, the ESIA had significant achievements in attaining this, through our provision of clinical service, education and training programs, community engagement programs and our cutting-edge research. What makes us truly unique is that we do have all these facets working together – a powerful combination.

The level of passion within our ESIA team for research and furthering the mission for better hearing is evident in everything we do. This year our research groups, guided by the Research Committee and its Chair Mr Peter Millington, made new advances in technology and clinical applications to improve hearing in a variety of methods. The research conducted by ESIA conjoint researcher De Wet Swanepoel on middle-ear abnormalities in young children has made significant findings that will revolutionise the testing of the children's hearing. The impact of these real-world clinical applications from his research findings will assist audiologists globally and for his efforts he was awarded the ESIA Valerie Alder Research Prize of 2014.

The ESIA and our Avant CENTER gained international notoriety through our Advanced Ear Surgery Master Class. Japanese ear nose and throat students flew to our ESIA Avant CENTER to utilise our state of the art training facility and to participate in workshops and intensive lectures from local and international guest speakers. This was only one of numerous highly

impressive courses conducted at the Avant CENTER which is now attracting some of the world's best ENT surgeons as well as local clinicians in all areas to learn at ESIA. With courses being offered for next year already surpassing our 2014 events, it is destined to be another amazing year ahead for education and training at the ESIA Avant CENTER.

Using our research findings to make a direct and powerful impact in the community through education is another key part of improving hearing. This year ESIA took a leadership role in the 2014 Hearing Awareness Week and provided experts from every department to provide topical informational seminars on hearing and hearing health to the Perth metropolitan community.

Additionally we increased the reach of our Extending the Boundaries video linkup service to address prevalent hearing loss issues in the remote and rural areas of Western Australia. The Federal Government also funded the Better Hearing, Better Listening initiative to educate and provide training to key members in remote communities in order to assist in the detection and management of ear disease and associated hearing loss.

Over 170 remote paediatric service and training episodes have been delivered with the support and collaboration of the Puntukurnu Aboriginal Medical Service (PAMS), Australian Hearing, Dr Michael Watson from Children's Equity and ESIA affiliated ENT Professor Terry McManus.

The ESIA passion for better ear health for children is evident in all areas of our organisation. This year the ESIA Hearing Implant Centre launched a paediatric program for cochlear implant recipients called EnginEars. The program is designed by Ms Gemma Upson, Hearing Implant Centre Manager, to provide a holistic and lifetime of support for not only the recipients but also their families as they transition to a better way of hearing. Partnering with the School of Special Educational Needs: Sensory, the program assists throughout the process of diagnosis through to treatment and ongoing care. It ensures all areas of the child's hearing loss, language, cognitive, social, emotional and physical development is considered and supported as they grow into adults and continued for the rest of their life.

The Ear Science Institute Australia believes in providing world class service to all ages within our community and our Lions Hearing Clinics have optimised their relationship with high quality hearing aid manufacturers Sonova and Oticon to establish preferred supplier arrangements. The work of Mrs Sandra Bellekom, Lions Hearing Clinics Manager, has been very significant and I thank her for her skilful management, as well as the Lions Hearing Clinics team of highly qualified audiologists. They will be able to provide the latest technology and with recent improvements in clinic procedures, the clients will be able to receive their treatment more effectively and efficiently. The Lions Hearing Clinics remain independent and aim to continually improve processes and product offerings to ensure we are able to provide an optimum customer experience.

People are at the heart of everything we do at ESIA, including our own team. In the last year there have been exceptional achievements in our leadership team. ESIA Chief Executive Officer, Dr Brett Robertson, was awarded a Stanford Australia Foundation's Dyson Bequest Scholarship and ESIA Hearing Implant Centre Manager, Mrs Gemma Upson, was a State Finalist for the Telstra Young Business Woman of the Year.

Ms Laura Kazmirowicz, ESIA Fundraising and Events Manager, was awarded the Young Fundraiser of the Year WA 2015 particularly for her work with our Gift of Hearing Appeal. The ESIA Board chaired by Mr John Schaffer, as well as my fellow trustees, leadership, management and frontline teams are our greatest asset and they ensure the ESIA and its work is kept in high regard.

Each of the above elements of the institute are an integral part of the ESIA's success and development. This, however, is only the beginning for the Ear Science Institute Australia. As we advance in our field and become astute in our ways of working, we become more effective in our vision to be a world renowned centre of excellence for improving the lives of people with hearing conditions. Our people are some of the most recognised, awarded and dedicated in the world and they are focussed on being at the forefront of technology and clinical research. With this focus and the backing of our Board and donors, we will elevate ESIA to become instrumental in the global pursuit to cure hearing loss through the treatment of sensorineural hearing loss in the inner ear.

I look forward to updating you in the future on the ways the ESIA team are making a difference, on a local, national and international scale.

Professor Marcus Atlas
Director



Philanthropist and Nobel Laureate support Ear Science Institute Australia

The Ear Science Institute Australia (ESIA) is honoured to welcome its first co-patrons Nobel Laureate Professor Barry Marshall AC FRACP FRS FAA DSc and the Honourable Mr Malcom McCusker AC CVO QC. Mr McCusker and Professor Marshall are pioneers in their respective fields and leaders in the larger research community.



Professor Marshall has supported ESIA for a number of years and has dedicated his life to scientific advancement as an Australian Physician, Clinical Professor of Medicine and Pharmacology and Clinical Professor of Microbiology at the University of Western Australia.

Professor Marshall is most well-known for his discovery that a bacterium, *Helicobacter pylori*, causes peptic ulcer disease. At the time his hypothesis was strongly criticized by his peers, described by Marshall as “a campaign, everyone was against me but I knew I was right.” Standing firm by his beliefs after failed attempts to infect piglets, Professor Marshall consumed a dish containing *Helicobacter pylori* himself and soon developed gastritis, proving undoubtedly his hypothesis. This act of determination was honoured in 2005 when Professor Marshall was awarded the Nobel Prize for Physiology or Medicine with his research partner Professor Robbin Warren AC. Professor Marshall is a revolutionary and leading expert in scientific research whose outstanding contributions were further recognized in 2007 when he was appointed a Companion of the Order of Australia. ESIA is proud to announce the co-patronage of such a remarkable individual.



Mr McCusker has maintained a relationship with ESIA since 2009 and was the 31st Governor of Western Australia, serving from July 2011 to June 2014. Mr McCusker is a well-respected barrister and philanthropist, known for his successful representation

of the wrongfully convicted in high profile cases. In 1982 Mr McCusker was appointed Queen’s Counsel and since then has chaired several legal committees. He has appeared on the High Court and Privy Council for the United Kingdom and is a part time lecturer at the University of Western Australia. In 2005 Mr McCusker was appointed an Officer of the Order of Australia in recognition of his contribution to the legal profession.

Mr McCusker was drawn to the ESIA as he is a world renowned philanthropist and patron for more than 100 community organisations. He founded the McCusker Charitable Foundation which has donated over 40 million dollars to improve health and education in Western Australia and after being appointed Governor in 2011 donated his \$422 678 salary to charities devoted to improving the health of indigenous people. Mr McCusker is an avid supporter of medical research and in 2010 was recognized as Western Australian Citizen of the Year, Philanthropist of the Year and Western Australia’s Australian of the Year. ESIA welcomes the support of such a prominent philanthropist.

Both Mr McCusker and Professor Marshall have a long standing relationship with ESIA and a passion for assisting people with hearing loss. ESIA recognised Mr Malcom McCusker and Professor Barry Marshall as co-patrons at the 2014 End of Year Function and look forward to sharing the benefit of their years of experience with the institute.

EnginEars – ESIA’s cochlear implant program for kids

In October of 2014, the Ear Science Institute Australia’s Hearing Implant Centre launched its paediatric program called EnginEars. The cochlear implant program for kids was created in collaboration with the School of Special Needs: Sensory (SSEN:S) to ensure the children receiving treatment and their families were provided with a range of support services, with the goal of providing the best possible outcome for cochlear implant recipients.

Helping newborn babies, children, and teenagers with severe hearing loss, the EnginEars program offers a broad range of hearing implant options and a comprehensive suite of services to address the child’s hearing loss, their language, cognitive, social, emotional and educational needs services, all under one roof.

The program is funded by a State Government Social Enterprise Fund grant of \$286,000 to the Ear Science Institute Australia (ESIA). ESIA’s Hearing Implant Centre Manager, Ms Gemma Upson, explains that the program is not just about children, but the whole family.

“Learning that your child has hearing loss is stressful enough and impacts not only the child, but the entire family,” Ms Upson said. “We are proud that the EnginEars program provides holistic support for families throughout the process of diagnosis through to treatment and ongoing care.

The EnginEars program is a unique partnership between the ESIA Hearing Implant Centre and the School of Special Educational Needs: Sensory. It will be of great benefit to families and children with significant hearing loss who choose a hearing implant device to assist with communication.

EnginEars provides whole-of-life care in a consistent and highly supportive environment that children ‘grow up’ within; once their education is complete, the young adult can access cochlear implant and associated services for the rest of their life.

Marketing of the EnginEars program has commenced with the development of a targeted range of printed materials which are distributed to audiologists and other sources of referral throughout Western Australia. Three carefully constructed information guides designed to educate parents about the development of speech and language in children, hearing loss, the implantable treatment options and the journey of implantees and their families. These booklets are complemented by detailed support materials once families join the EnginEars program. ESIA’s Parent Liaison Coordinator, Kristina Coomber, performs a vital support role to parents and family members throughout the entire journey.

Printed information is, importantly, accompanied by online material which will be embellished over time as the EnginEars client base grows. The launch function gained significant interest from the media, achieving coverage on Channel 7 and 10, the local and specialist parenting press and public relations activities, both on and offline will continue to form an important part of the marketing strategy.

There has been significant interest in the program since the official launch in October. Our first paediatric implant recipient following the launch was Hayden Maitland, a third generation ESIA recipient. His story can be read on page 47.



Better Hearing Better Listening: Connecting with remote communities to manage ear and hearing health

Ear health in remote communities is an issue close to the Ear Science Institute Australia (ESIA) and the Federal Government. Due to the isolation of many of the towns, audiology services can be highly sought after but it can be difficult to provide an ongoing service.

To combat this, the Federal Government Healthy Ears Better Hearing, Better Listening initiative was developed. With a clear goal to help educate locals about hearing loss and to provide audiology services whilst giving training to key members of the community about ear health to assist in identifying and managing any ear health issues.

Initially a three month project, a team from the ESIA journeyed to three remote Western Australian communities. Coordinated by Rural Health West and managed by Sharon Safstrom of ESIA's Avant CENTER, the initiative allowed ESIA to collaborate with Puntukurnu Aboriginal Medical Service (PAMS), Australian Hearing, Dr Michael Watson from Children's Equity and Professor Terry McManus, an experienced ENT specialist who services the Pilbara region.

The ESIA team was extensive, consisting of clinical lead Chris Brennan-Jones, ENT Fellow Dr Rebecca Heywood, ESIA audiologists Selena Moyle and Angela Mack, Health Promotion Co-coordinators Rhiannon West and Lindi Pelkowitz, and telehealth specialist Adjunct Professor Robert Eikelboom.

The Better Hearing, Better Listening collaboration enabled many residents of remote communities to access qualified audiologists for ear disease examinations and hearing loss testing. The visiting audiological team and PAMS also trained the local workforce in performing hearing screening, basic ear

health procedures and using tele-otology equipment successfully.

The team set up clinics in locations across the Pilbara and due to the success, the partnership was extended to 12 months finishing in December 2014. Over the duration of the program over 150 members of the three communities had their hearing assessed, primarily children from local schools, where a temporary ear and hearing clinic was set up. This work established that approximately 70 per cent of the children tested were experiencing some form of hearing difficulties.

ESIA's team continues to work closely with the existing networks of health professionals in the local areas where the communities are. Established relationships are now in place with Australian Hearing, WA Country Health Service, the Education Department of WA (Child Health Nurse program) and local GPs and nurses.

By the end of 2014 the Better Hearing, Better Listening project covered more than 19,000km over six trips, visiting each of the Jigalong, Parnngurr and Punmu communities twice. All of the communities were remote and small, having less than 500 resident's combined.

Dr Randy Spargo, a district medical officer with PAMS and the sole general practitioner for the area supervised the delivery of the program and the collaboration with the ESIA. "It was an easy collaboration between the remote community and the professionals in the area" Dr Spargo said.

This collaboration is ongoing, providing a continuous supportive link between the rural community, ESIA and its project partners in Perth. ESIA will continue to work with PAMS and provide expert support to these communities through telehealth initiatives in the future.



Gift of Hearing

Hearing is a precious gift. The Gift of Hearing Appeal is a fundraising initiative which was launched in 2011 and enables our dedicated clinical teams to provide the gift of hearing, through the donation of cochlear implants and premium hearing aids, to worthy recipients in need each year. In addition, the appeal supports critical, ongoing medical research at the Ear Science Institute Australia (ESIA) that is advancing and improving hearing health care in Australia and around the world. Generously supported by Cochlear Ltd and MED-EL Implant Systems Australasia on an annual basis, and in previous years by hearing aid manufacturers Oticon, Phonak and Unitron, the Gift of Hearing Appeal culminates at our Charity Dinner.

The wonderful support for the Gift of Hearing, received from the WA philanthropic and business communities, means it is the major source of annual fundraising for the Institute and as a result ESIA's innovative research has achieved significant developments in the treatment of hearing impairment. The generous support for the 2014 Gift of Hearing Appeal has enabled ESIA to extend the Appeal's support to the Hearing Implant Centre's paediatric cochlear implant program, EnginEars.

The Gift of Hearing Appeal culminates at ESIA's annual Charity Dinner where guests are given the opportunity to add their support to the generous donations which have been received prior to the event. The Charity Dinner aims to provide guests with a highly memorable evening, while contributing valuable funds towards the advancement of medical research and education conducted by the Institute.

The success of the 2014 Gift of Hearing Appeal means that six people who have suffered a significant hearing impairment will be afforded the 'Gift of Hearing' via receipt of donated cochlear implants and premium hearing aids. In addition to the profound opportunity to restore hearing the Appeal enables ESIA to advance and expand its research programs, clinical services, community services and education and training.

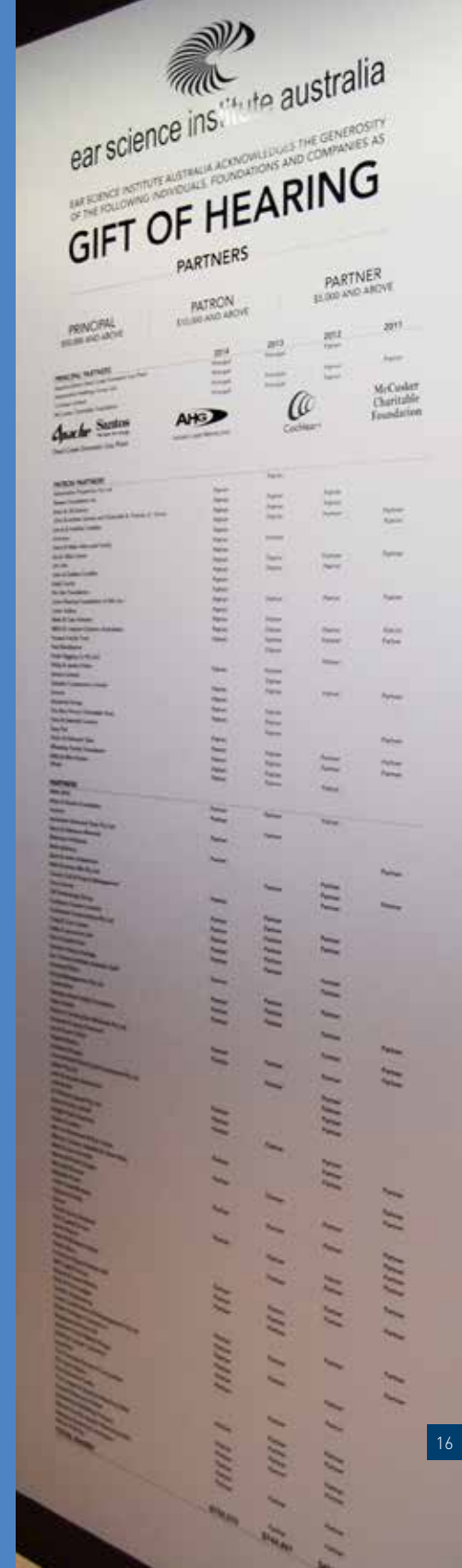
If you would like to help us give the Gift of Hearing or would like more information on this meaningful initiative and how it helps us to improve people's lives, please contact our Events & Fundraising Manager on +61 (8) 6380 4900 or giftofhearing@ears-science.org.au



2014 Gift of Hearing Donors

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 Warren Ford & Apache Matching Gifts
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 Wilson Parking
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Cochlear - Principal Partner



A global leader in implantable hearing solutions, Cochlear is an Australian-based, multinational corporation with an unwavering commitment to connect the hearing impaired to a world with sound.

Cochlear has a dedicated team of approximately 2,700 people worldwide who over the last 30 years have delivered the gift of sound to more than 350,000 people with hearing loss in over 100 countries.

Dr Chris Roberts, Cochlear Chief Executive Officer said the principles, values, mission and culture that are thread throughout our organisation strongly align with the Ear Science Institute Australia.

"While we are both Australian organisations that deliver an impact beyond our shores, the parallels which speak loudest are our shared passions, evident in everything we do, to empower people to live full lives, transform society's understanding of hearing loss and deliver innovative hearing solutions," said Dr Roberts.

Yet it's not only the collective purpose that Cochlear and ESIA hold. The synergistic effect of the two entities fosters an outcome more profound than either individually. This encompasses gold-standard life-long patient care, patient centred innovation and the drive to positively change people's perceptions of hearing loss.

Both organisations are driven to overcome the frustration, anguish and isolation that hearing impairment too often imposes on those affected.

Although intricate collaboration had occurred since in the advent of ESIA, in 2011, Cochlear enthusiastically became an inaugural supporter of the Gift of Hearing, elevating its support to Principal Partner status in 2013.

The objective of the annual Gift of Hearing Appeal is to garner public support for the Institute's innovative world-class medical research and to provide implants to people otherwise unable to access them through standard healthcare funding channels.

Cochlear General Manager, Mr Shaun Hand said the aim of the Gift of Hearing Appeal is absolutely consistent with the life blood of our company and the opportunity to be involved was compelling.

"Quite exceptionally, the Appeal is an outstanding demonstration of ESIA ability to meaningfully engage the broader community who have become highly motivated, active participants in making a hearing difference in people lives.

"It was evident the ESIA has come to be held in great esteem by the community and people are truly delighted by the chance to be part of the solution that the Gift of Hearing Appeal affords.

"The level of love and respect in the room at this annual event is simply amazing. Everyone knows that it's not just a charity evening or a one off donation. It's being part of the wonderful gift of hearing that endures far beyond that moment in time," said Mr Hand.

"Five years on, our formal support of the Gift of Hearing Appeal continues to be most fulfilling for Cochlear, providing opportunity to directly contribute to the community which is the centre of our organisation's commitment

The seeds of Cochlear were first sown in the mid-1960s in Melbourne when ear surgeon Professor Graeme Clark AC came upon a scientific paper from the US that described how a profoundly deaf person received hearing sensations through electrical stimulation. The idea germinated and in 1967 he began researching the possibility of an electronic, implantable hearing device: a cochlear implant.

Professor Clark was determined to find a way to help the profoundly deaf hear and in spite of problems and criticisms, he relentlessly pursued the invention of a cochlear implant. He believed it was their only hope of ever hearing.

The chance to give those living in deafness the gift of sound urged him on and in 1978, the first cochlear implant surgery took place and his dedicated team discovered how speech could be coded with multi-channel electrical stimulation.

Former President of the Australian Academy of Sciences, Sir Gustav Nossal, has described the cochlear implant as the only medical device which can effectively restore one of the human senses.

From Professor Clark's success, Cochlear Limited was born to make this incredible innovation commercially available all over the world.

"Few people are driven to want change, especially when the landscape is littered with obstacles. In that vein, perhaps Professor Marcus Atlas, ESIA Founding Director is of a similar ilk to Professor Clark," said Mr Hand.

ESIA's Professor Atlas innovatively combines applied clinical and scientific research which is underpinned by a commitment to education, research, surgical innovation and mentoring. He continues to be a key driver in the engineering of a unique silk eardrum for people with perforation related hearing loss that affects millions globally.

In essence, neither Cochlear nor ESIA are content to accept the status quo. Both are united in their determination to help people hear, be heard and be empowered to connect with others and the world around.

"While it is often vexing that only 8 per cent of people who could benefit from a Cochlear implant actually receive one, the unrealised potential to be able to positively impact the lives of so many more is a heart-felt motivator.

"In many ways, Cochlear's work with ESIA has only just begun. The possibilities of our alliance are exciting and substantial. We are most fortunate and grateful to be in each other's company," concluded Mr Hand.



Image courtesy of Cochlear Ltd

2014 Charity Dinner & Gift of Hearing Appeal pirouettes to new heights

Ear Science Institute Australia's (ESIA) fourth annual Charity Dinner, proudly presented by Schaffer Corporation Limited, and Gift of Hearing Appeal was very successful raising much-needed funds for the research, education and community service programs at the Institute. Thanks to the generosity of the event sponsors, donors and supporters the 2014 Charity Dinner was the most successful to date and is ESIA's premier fundraising event for the year. More than 400 guests were greeted at the Perth Convention Centre's BelleVue Ballroom by a troupe of ballerinas on Friday, 9th May 2014 and enjoyed an elegant night of fine food, award-winning Western Australian wine and magical performances from the students at Charlesworth Ballet Institute and strings trio from the West Australian Symphony Orchestra.

The many ESIA staff members who gave up their Friday night to help at the Charity Dinner were a big part of ensuring that the evening was such a success. ESIA would also like to thank the following sponsors who generously supported the 2014 Charity Dinner: Schaffer Corporation Limited, Automotive Holdings Group (AHG), Saracen Estates, Pemberley Wines and Little Creatures Brewing. The Gift of Hearing Appeal was proudly supported by Cochlear Ltd, MED-EL Implant Systems Australasia and Gatecrasher. ESIA would particularly like to recognise the Apache-Santos Devil Creek Joint Venture, Cochlear Ltd, AHG and the

McCusker Charitable Foundation as 2014 Gift of Hearing Appeal Principal Partners. Sincere thanks to all of the generous Gift of Hearing Partners and donors along with the donors and winning bidders of the highly sought-after items for the auction, silent auction and raffle.

A highlight of this year's event was the Mazda 3 Car Giveaway, thanks to the generosity of AHG and Jason Mazda for donating a brand new Mazda 3 Neo! 50 "keys" were sold on the night for a chance to win the car, raising \$50,000 for ESIA. The keyholders lined up at the end of the night to try their keys in the lock to reveal the winner—and the lucky winner was most deserving having purchased three keys!

Mr Li Cunxin, bestselling author of autobiography Mao's Last Dancer, was an inspirational keynote speaker with his moving tale of the triumph of human spirit over adversity. ESIA Director Winthrop Professor Marcus Atlas spoke about the achievements of the Institute and shared his exciting new vision for the future direction of research at ESIA to prevent and potentially cure the most common causes of hearing loss and Mrs Christene Clarke, mother of bilateral cochlear implant recipient Danny Clarke, reinforced to guests just how precious the gift of hearing is.



Thank you to our 2014 Charity Dinner Supporters

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Research

Ear Science Institute Australia's (ESIA) research is facilitated by the close working relationship between clinicians and researchers and our close association with the Ear Sciences Centre in the School of Surgery at The University of Western Australia (UWA). With a strong emphasis on improving patient outcomes, the efforts of our medical research team are underpinned by a commitment to teaching and training.

Multi-disciplinary in nature, the research groups draw on a diversity of skills from fields such as engineering, computer science, molecular and cellular sciences, otolaryngology and audiology. Work occurs in close collaboration with other national and international medical research institutions, universities, hospitals, government agencies, industries and patients.

Research Focus

The Institute's reputation as a leader in research and technology has been established for its specialised attention to the many debilitating diseases that affect the hearing and balance systems. Recognised internationally, the commitment of ESIA's research team continues to focus on these major areas:

- Molecular and cellular otolaryngology
- e-Health
- Clinical otolaryngology
- Epidemiology

At ESIA we endeavour to connect our research and educational activities to the same problems we see in our patients in the clinic. We aim to match the advantages of unique clinical successes with innovative research and state-of-the-art training and clinical practice.



Research Committee Chairman's Report

The Research Committee promotes innovation and places a strong emphasis on research with an interdisciplinary and translational focus, to ensure we apply our research outcomes and knowledge gained for the benefit of our patients. The Research Committee facilitates this through advising on research, guiding strategy and providing a research governance framework that ensures quality, safety, privacy, risk management, financial management and ethical acceptability.

The 2014 Research Committee members were Emeritus Professor Donald Robertson (Former Chair), Winthrop Professor Marcus Atlas, Professor Peter Friedland, Dr Helen Goulios, Associate Professor Ramesh Rajan and Mr Peter Millington.

The Ear Science Institute Australia (ESIA) has active collaborations and joint research grants with staff from Deakin University and Monash University Melbourne; The University of Pretoria South Africa and The University of Cape Town South Africa; The University of Zhejiang University China; The Walter and Eliza Hall Institute of Medical Research Melbourne; and the University of Western Australia's Schools of Surgery, Psychology, Anatomy, Physiology and Human Biology. It is our belief that extensive collaboration will be a catalyst for the generation of new ideas and projects, enabling our ear and hearing research to increase its prominence on national and international stages and make an increasing contribution to the field of hearing loss.

To encourage and reward excellence in our next generation of hearing research scientists the Research Committee, with ESIA Board support, annually awards the Valerie Alder Research Prize. In 2014, Professor De Wet Swanepoel was awarded the coveted prize for his work in identifying a trend for children younger than 6 years of age to have significantly more middle-ear

abnormalities than children of an older age. This finding has considerable clinical implications on paediatric audiology and school health screenings. This was an exceptional piece of research with real world applications and as such was the worthy recipient of the Valerie Alder Research Prize.

The objective of ESIA's well-established research programs is to generate high quality research that is readily translated into improved patient diagnosis and treatment. To ensure this goal is aligned with ESIA's activities, the Research Committee convenes an annual Research Conference to facilitate robust peer review and thoughtful discussion between the various research disciplines, the Committee and clinicians. The Conference allows the researchers to gain knowledge on various research projects and identify potential use of information in their own research. This ensures a high level of efficiency and encourages the researchers to constantly evolve their research programs to be at the cutting edge of the field.

The impact of the work of our research team and my fellow Research Committee members has been significant this year, with numerous advances being made in clinical applications and innovative methods and materials to assist or prevent hearing loss in the community. I would like to thank the researchers for their contribution and for always striving to know more and to be bold in their research. I would also like to acknowledge my fellow Research Committee members for their assistance, advice and guidance throughout the year. At ESIA, we look forward to enhancing the impact of our research as we build on these strong foundations throughout the year ahead.

Peter Millington
Chairman, Research Committee

ESIA Symposium 2014: A life worth hearing – a symposium on hearing research

Every year the Ear Science Institute Australia (ESIA) hosts a hearing health symposium which attracts local and national registrants as well as international speakers. Once again this year's symposium was well attended with over 100 registrants.

Many of the attendees were specialists in the field of hearing, audiology students and also ESIA staff. They enjoyed a wide range of research presentations covering topics such as cognitive status (memory and thinking skills) and hearing, automated hearing testing, assessing how well patients use their hearing aids, regeneration of tissues in the ear, and hearing loss in baby boomers.

The Keynote speaker was Professor James Hall III, a world renowned audiologist and clinical professor at the University of Florida Shands Medical Centre. He is best known for his textbooks on audiological practice, and his clinical leadership in topics such as tinnitus and assessment of hearing. His keynote lecture was on the "Future of Audiology", encouraging the audiologists in the audience to take on the challenges posed by new technologies and service delivery models.

"This year's symposium had a number of truly hot audiology topics. I am impressed with the quality of research which is shown in the talks and the high level analysis, especially within ESIA. Along with this ESIA are collaborating with world class researchers, and many more opportunities are yet to be explored," Professor Hall said.

Four other invited speakers supported each of the four sessions that followed. Professor Romola Bucks, Psychology Department, University of Western Australia,

gave an overview of relationships between cognitive ability and hearing.

Heather MacLaren, from the Telehealth Unit, WA Country Health Service, described the range of telehealth services conducted in Western Australia, demonstrating how many people in remote areas can receive expert clinical care without having to travel long distances.

Professor Leon Straker from Curtin University delivered a presentation on the role of epidemiology in medical research. Relating to his own research in the field of the back and neck, he showed how epidemiology studies have helped to define health issues, and how this information can be used to influence health policy, research and the delivery of health services.

Associate Professor Fred Chen from the Lions Eye Institute spoke about the regeneration of tissues. He talked about regeneration mediums of the eye, including techniques that could be used to provide lessons for other parts of the body.

Ten other presentations were given by ESIA researchers and their collaborators during the day. Leading up to the symposium there was also a series of three half-day workshops all conducted by Professor Hall.

ESIA audiologists and support staff were also treated over dinner to a special presentation by Prof Hall, in an interactive session that highlighted the importance of adopting best practices in caring for those with hearing loss. This year's symposium was inspiring and provided a glimpse into the future of audiology. The symposium was generously sponsored by Sonic Innovations, Unitron, Phonak and MED-EL.



Molecular and Cellular Otolaryngology

Research in the Molecular and Cellular Otolaryngology Group is focused on regeneration in the ear to identify new methods and to improve outcomes in surgical otolaryngology. Our studies include tissue engineering of a human tympanic membrane (with the most progressed model known as the 'Silk Ear Drum') for repair of chronic perforations and development of human cell models for regeneration in the middle and inner ear.

Significant inroads are being made in human tissue engineering under the supervision of Head of Group Adjunct Associate Professor Rodney Dilley, with three main approaches:

- Studying cells derived from the human tympanic membrane.
- Evaluation of biocompatible scaffolds, including silk fibroin, bacterial cellulose, collagen, hyaluronan, etc., capable of supporting human tympanic membrane cell growth.
- Testing scaffold materials in chronic animal models to identify how they work and to use them to optimise outcomes.

Cells called keratinocytes are cultured from donated human tympanic membrane tissue and used to determine how to best promote tympanic membrane repair and to understand interactions between cells, scaffold materials and growth factors. Using the most promising findings from cell culture and scaffold materials studies, new surgical approaches are developed in animal models of eardrum perforation to

show improvements in repair before testing them in the clinic. We are also able to isolate stem cells from within tympanic membrane cell populations and study how they might be harnessed to promote regeneration.

Other research includes studies of the genetic factors associated with age-related hearing loss using animal models. DNA screening (Microarray) showed that prolactin is an important gene regulated with age and gender in the cochlea and further research will correlate our findings with human population studies of hearing loss.

The Molecular and Cellular Otolaryngology Group is one of four main research groups at ESIA associated with the Ear Sciences Centre in the School of Surgery at UWA. The group has also formed close links with surgeons, audiologists and materials engineers.



Cell Biology of Human Tympanic Membrane (TM) Repair

- Regulation of migration and proliferation of cultured TM keratinocytes
- Characterisation of stem cells from human TM
- Investigations into the extracellular matrix structure of the TM
- Regulation of signalling pathways for proliferation and differentiation in human TM keratinocytes.
- Growth factors regulating cell function in the tympanic membrane

Engineering a Human Tympanic Membrane

- Characteristics and optimisation of cell growth on silk fibroin formulations
- Effect of various growth factor combinations on the migration and proliferation of cultured TM keratinocytes on silk
- Localised otological biocompatibility of silk fibroin scaffolds in a rat model
- Mechanisms underlying improvements in hearing and healing for myringoplasty

Inner Ear

- Age-related changes in cochlear gene expression in a mouse model
- Relationship between prolactin expression and hearing loss in an aged mouse

Research Team

- Adjunct Associate Professor Rodney Dilley, PhD (Head of Group)
- Dr Robert Marano, PhD
- Winthrop Professor Marcus Atlas, MB BS, FRACS
- Dr Brett Levin, MB BS, MSc
- Dr Bing Teh, MB BS, PhD Student
- Dr Shen Yi, MB BS, PhD Student
- Dr Allen Wang, MB BS, PhD Student
- Ms Malini Visweswaran, PhD Student
- Ms Sharon Redmond, Senior Research Assistant
- Mr Lawrence Liew, BSc, Research Assistant

Research Students

- Mr Abhishek Menon, BSc Honours student
- Ms Huanting Ong, BSc Honours student
- Ms Stephanie Maconachie, Summer Scholarship student

- Ms Michelle Lam, Shenton College Learning Links

Mentor Program

- Ms Tia Hockridge, Biogeneius student

Funding

We gratefully acknowledge the support of the following funding agencies:

- Australian Research Council (ARC)
- National Health and Medical Research Council (NHMRC)
- Garnett Passe and Rodney Williams Memorial Foundation
- The Tony and Gwenyth Lennon Family Charitable Foundation
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ESIA's Gift of Hearing Appeal Collaborations

- Alfred Deakin Professor Xungai Wang, Australian Future Fibres Research and Innovation Centre, Deakin University
- Professor Magnus von Unge, Clinical Sciences, Karolinska Institute, Sweden and Otolaryngology, Akershus University Hospital, University of Oslo, Norway
- Winthrop Professor Ming Hao Zheng, Centre for Orthopaedic Research, School of Surgery, UWA
- Professor Nira Ben-Jonathan, University of Cincinnati College of Medicine, USA
- Professor Arunasalam Dharmarajan, School of Biological Sciences, Curtin University
- Professor Sudha Warriar, Manipal Institute for Regenerative Medicine, Bangalore, India
- Professor Michael Gluth, Otolaryngology/Head and Neck Surgery, The University of Chicago, USA
- Dr Peter Santa Maria, Otolaryngology (Head and Neck Surgery), Stanford University USA
- Dr Richard Day, Biomedical Engineering, University College London, UK
- Dr Rangam Rajkhowa, Australian Future Fibres Research and Innovation Centre, Deakin University
- Dr Ryan O'Handley, BSc, PhD, The University of Adelaide
- Assistant Professor Brendan Kennedy, School of Electrical, Electronic and Computer Engineering, UWA

e-Health

Tele-audiology is the use of computer and telecommunication technologies to deliver ear and hearing health services. With most of the 360 million people in the world with disabling hearing loss unable to access ear and hearing health professionals, tele-audiology has the potential to bring diagnostic and rehabilitation services. This will help not only people in developing countries, but also those living in remote areas in developed countries, as well as many people in urban areas seeking efficient ways to access health services.

Ear Science Institute Australia (ESIA) researchers are leading the field internationally in the development, testing and implementation of tele-audiology. A hearing test is a vital component in assessment of degree of hearing loss. This is traditionally a manual administration of a standard procedure. A number of devices that automate this test have been tested by ESIA researchers, showing that the results from an automated audiometry are the same as those from a manual hearing test. The case for automating hearing testing is supported by a number of current studies with an international collaborator, Professor Robert Margolis from the University of Minnesota, USA. The first study has identified a potential error in the calibration of audiometers, which is now being considered by international standards bodies. The other studies have demonstrated weaknesses and bias in the manual methods of audiometry.

An important publication in 2014 reported the results of a study led by Adjunct Professor Robert Eikelboom. A system was developed and tested that enabled the remote programming of cochlear implants. Those with a hearing implant need a review of their implant at least annually, a challenge for many people with a hearing implant living in rural and remote areas of Australia.

One of the obstacles to providing services to more people is the shortage of hearing health professionals. Following an international survey of audiologists, Professor Eikelboom reported the findings at the World Congress of Audiology in Brisbane. The survey showed that many audiologists worked part-time, and had the capacity and interest to be involved in the delivery of tele-audiology services.

Professor De Wet Swanepoel, is a key member of the ESIA eHealth research team. Although based in Pretoria South Africa, he contributes significantly to many of the ESIA projects and is a regular visitor at ESIA. In 2014 he was awarded the Valerie Alder Research Prize for his research on middle-ear abnormalities and the clinical impact of this on the hearing screening methods for young children.

This year the group was joined by two PhD students Chris Brennan-Jones and Karina Tao, both of them audiologists. Chris' project involves the clinical application of automated audiometry. Karina joined us from Brazil, after over a decade of work in clinical practice and the audiology industry. Karina's project will leverage off Chris' to investigate various aspects of tele-audiology management and rehabilitation of hearing loss. Masters of Medical Science student, Jacki Ward is completing her work in the development and validation of an online training programme for health workers, nurses and GPs to identify signs of ear disease in images of the eardrum and ear canal.

ESIA researchers are active in national and international professional leadership roles, with Adjunct Professor Robert Eikelboom and Professor De Wet Swanepoel serving on the International Audiology Society's Tele-Audiology Subcommittee, and Professor Eikelboom serving on the committee of the Australasian Telehealth Society.

Research Team

- Adjunct Professor Robert Eikelboom, PhD (Head of Group)
- Professor De Wet Swanepoel, PhD
- Winthrop Professor Marcus Atlas, MB BS, FRACS
- Professor Peter Friedland, MB BCh, MMed, FCS(SA), FRACS
- Dr Dona Jayakody, PhD
- Ms Quartika Habsari, Research Assistant

Research Students

- Ms Rebecca Bennett, PhD Student
- Mr Chris Brennan-Jones, PhD student
- Ms Karina Tao, PhD Student
- Ms Jacki Ward, MSc student

Awards

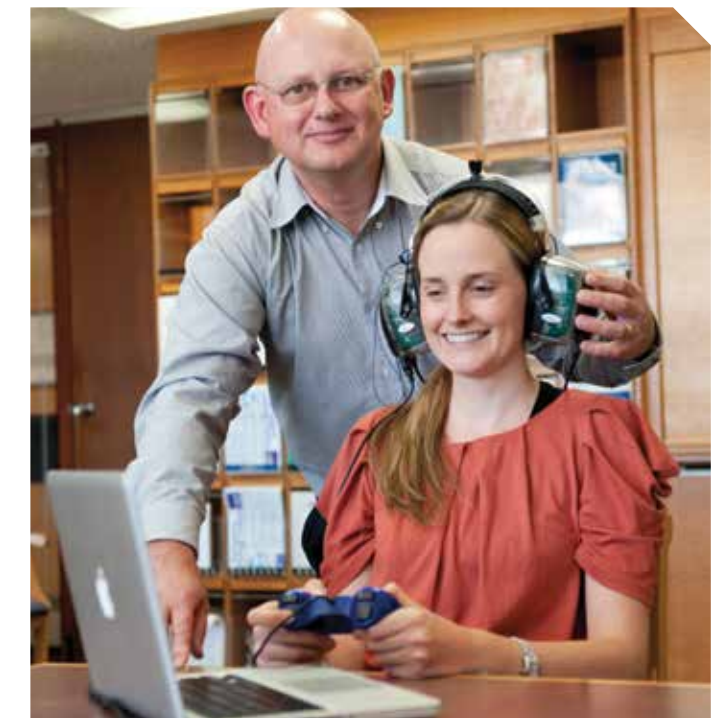
Mr Chris Brennan-Jones, Travel Scholarship to XXXII World Congress of Audiology, (USD\$1500), 2014

Funding

We gratefully acknowledge the support of MED-EL and ESIA's Gift of Hearing Appeal. Chris Brennan-Jones and Rebecca Bennett are supported by APA PhD scholarships. Karina Tao is supported by a scholarship from the Brazilian government.

Collaborators:

- Ms Faheema Mahomed, Department of Speech-Language Pathology and Audiology, University of Pretoria, South Africa
- Professor Robert Margolis, Department of Otolaryngology, Head and Neck Surgery, University of Minnesota, USA
- Professor Isabelle Skinner (Ellis), Associate Dean - Research and Research Training Charles Darwin University, Australia
- Professor Timothy Skinner, School of Psychological and Clinical Sciences, Charles Darwin University, Australia
- Assistant Professor Kevin Murray, Centre for Applied Statistics, The University of Western Australia
- Associate Professor Berwin Turlach, Centre for Applied Statistics, The University of Western Australia
- Clinical Professor James Hall III, University of Florida, USA



Clinical Otolaryngology

The Clinical Otolaryngology Research Group is a multi-disciplinary team focused on developing evidence-based guidelines for improving clinical practice. This is accomplished by designing intervention studies to address questions that are observed in current clinical practice and translating the findings of our research into new clinical practice.

Research activities in this group are conducted in collaboration with Ear Science Institute Australia (ESIA) Hearing Implant Centre, ESIA Balance Centre and the Lions Hearing Clinics. In 2014, research studies were carried out in the following clinical research areas: hearing loss and cognition, speech and music perception, tinnitus, rehabilitation, management of hearing loss, and hearing implants.

The flagship research area on the relationship between cognition and hearing loss, launched in August 2013, has completed a meta-analysis of the literature review to identify linkages. Under the guidance of Winthrop Professor Marcus Atlas and supervision of Dr Dona Jayakody projects are underway to investigate the effect of treatment for hearing loss on cognitive functions. Furthermore, the influence of mild cognitive impairment on hearing implant handling skills is also being evaluated.

Strengthening the collaborations between ESIA and McCusker Alzheimer's Research Foundation, a joint research project has been designed to investigate the auditory processing mechanisms underpinning speech perception abilities in subjective memory complainers. As part of ESIA's community service project area, and

in collaboration with the West Australian Symphony Orchestra, the West Australian Youth Orchestra and brass bands in Victoria Park region, in late 2014 ESIA launched a research study to investigate the effects of music induced hearing loss on the vestibular and cognitive functions of musicians. Music induced hearing loss is a gradual loss of hearing due to chronic exposure to music. It can result from listening to or playing both acoustic and amplified instruments. The estimated hearing loss among classical, pop and rock musicians is reported to be around 30%. This study will provide musicians with a unique opportunity to investigate the effects of prolonged exposure to intense music on hearing, vestibular and cognitive functions.

The findings of a number of our research studies have been presented national and international conferences and published in peer-reviewed.



Current Projects

- Assessment of first time hearing aid wearers – lessons for clinicians
- Hearing, dizziness and cognitive functions of musicians
- Development of tools to assess hearing aid and hearing implant handling skills
- Cognition and hearing loss
- Comparison of speech perception test scores
- Objective and subjective Most Comfortable Loudness Level (MCL) measurement in adult cochlear implant recipients
- Tinnitus - related symptoms and management
- Neural mechanisms for enhancing hearing

Research Team

- Winthrop Professor Marcus Atlas MB BS, FRACS (Head of Group)
- Professor Peter Friedland, MB BCh, MMed, FCS(SA),FRACS (Co-head of Group)
- Dr Dona Jayakody, BAud & SLP, MAud & SLP, PhD
- Dr Rebecca Heywood, MBChB, FRCS(ORL-HNS)
- Dr Peter Santa Maria, MB BS, PhD
- Ms Bev Eintracht, BA, MAudSA(CCP)
- Ms Gemma Upson, BSc, MCLinAud, MAudSA(CCP)
- Adjunct Professor Robert Eikelboom, BEng, MAppSc, PhD
- Ms Azadeh Ebrahimi, BSc(Aud), MAudSA(CCP), MSc Student
- Ms Susan Tegg-Quinn, B Nursing, MCLinAud, MAudSA(CCP), MSc Student
- Mr Chris Brennan-Jones, BSc (Hons), PhD student, Research Audiologist
- Dr Tim Marr, MBBS
- Dr Bing Teh, MBBS
- Dr Chloe Domville-Lewis MB BS
- Dr Nav Ahmed MBChB ,FRCS(ORL-HNS)
- Ms Helen Burgess, Research Assistant
- Ms Habsari Quartika, Research Assistant

Research Students

- Ms Rebecca Bennett, BSc(Hons), MAud, MAudSA(CCP), MBus , PhD Student
- Will Dunlop, PhD student
- Mr Christo Bester, PhD student
- Ms Natalie Carmody, BA(Hons), PhD Student

Funding

We gratefully acknowledge the support of the following funding agencies:

- Cochlear Limited
- Cochlear Foundation
- ESIA's Gift of Hearing Appeal

Collaborations

- Professor Romola Bucks, Neuropsychologist, School of Psychology, UWA
- Ms Michelle Olaithe, BSc, PhD, School of Psychology, UWA
- Dr Dunay Taljaard, PhD, AuD, Grad Dip, Head of Department, Audiology Princess Margaret Hospital
- Professor Ralph Martins, Foundation Professor of Ageing and Alzheimer's, Edith Cowan University and the McCusker Alzheimer's Research Foundation
- Dr Hamid Sohrabi, Postdoctoral Research Fellow at Edith Cowan University and the McCusker Alzheimer's Research Foundation
- Acting Professor Wilhelmina Mulders, School of Anatomy, Physiology and Human Biology, University of Western Australia
- Acting Professor Ramesh Rajan, Director of Education, School of Biomedical Sciences, Monash University
- Emeritus Professor Don Robertson, School of Anatomy, Physiology and Human Biology, University of Western Australia
- Emeritus Professor Geoff Hammond, School of Psychology, University of Western Australia
- Professor De Wet Swanepoel, Department of Speech Language Pathology and Audiology, University of Pretoria, South Africa

Epidemiology

Epidemiology is the understanding of the prevalence, incidence and natural history of disease and disability to key to the development of diagnostic tools, guiding future research directions, and informing public health policy.

Ear Science Institute Australia (ESIA) leads the ear and hearing health components of two projects with a significant international reputation.

The Busselton Baby Boomer Study (BBBS) commenced in 2010, and by May 2015 will have gathered data from over 4500 people in Busselton 45 to 65 years of age. Alongside a comprehensive hearing assessment, participants will have many other aspects of their health assessed. Each participant spends 3 to 4 hours in the Busselton Health Study facility for these tests, and also completes a large survey of their health history.

A number of studies have been completed or are in progress. We have shown that asking a single question of 45 to 65 year olds about their hearing impairment is likely to correctly identify people with a hearing loss. In a related study of people attending the Lions Hearing Screening Bus, we have found that almost all people over 65 years of age self-reporting a hearing loss require rehabilitation. The researchers recommend that general practitioners in rural and remote areas can use some simple questions to screen for hearing loss.

In collaborative studies with other researchers in Western Australia we are exploring the associations between hearing loss in Baby Boomers and cognitive decline, diabetes, heart disease, and occupational noise exposure. Another study nearing completion is reporting on the pathway that people with tinnitus follow for the diagnosis and management of their tinnitus.

As this phase of the study comes to a conclusion, plans are underway to start retesting all the participants. This will be an even more exciting step, as this will generate data on new cases (incidence) of disease and disorders, and also enable us to plot the course of those with existing conditions.

The Raine Study is a large collaborative study that commenced in 1990 as an ultrasound investigation of over 2900 pregnant mothers. The children born and their families have been studied and assessed many times since then, covering almost all aspects of their health. We have recently published the first population study of the prevalence of chronic ear disease (otitis media) Australian children. Focussing on 5 and 6 year olds, we showed that one in four children will experience recurrent ear infections, and that this was associated with allergies, presence of older siblings, attending day care, and non-exclusive breastfeeding for at least 4 months.

Another study recently published re-visited what clinicians should expect when assessing the middle ear by tympanometry. We showed that status of the middle ear varies significantly throughout the year, possibly related to season and allergies, and recommended that screening by tympanometry should not be conducted on children less than 6 years of age. This work has implications for screening programmes worldwide.

Current projects include studies on language development of children with recurrent ear disease, and the associations between behaviour and ear disease. We are also further exploring the associations between breast feeding and ear disease, and reporting the hearing of 5 to 6 year old children.

Research Team

- Adjunct Professor Robert Eikelboom, BEng, MAppSc, PhD (Head of Group)
- Professor De Wet Swanepoel, BCommPath, MCommPath(Audiology), PhD
- Winthrop Professor Marcus Atlas, MB BS, FRACS
- Professor Peter Friedland, MB BCH, MMed, FCS(SA), FRACS
- Mr Chris Brennan-Jones, BSc(Hons)
- Dr Jess Sommer, MB BS
- Dr Edward Wang, MB BS

Students

- Mr Victor Yau, MB BS and BMedSc Student
- Ms Natalie Carmody, BA(Hons), MSc Student
- Mr Hsern Ern Tan, MB BS student
- Mr Daniel McLennan, MB BS student

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Collaborations

- Busselton Population Medical Research Foundation, Perth
- Raine Study, Perth
- School of Population Health, UWA
- Professor Robert Margolis, Department of Otolaryngology, Head and Neck Surgery, University of Minnesota, USA
- Dr Michael Hunter, Busselton Healthy Ageing Study

- Dr Sarra Jamieson, Telethon Kids Institute, Perth
- Dr Angela Jacques, Raine Study, Perth
- Professor Wendy Oddy, Telethon Kids Institute, Perth
- Professor Andrew Whitehouse, Telethon Kids Institute, Perth
- Professor Romola Bucks, School of Psychology, UWA
- Dr Patrick Dunlop, School of Psychology, UWA
- Michelle Olaithe, School of Psychology, UWA
- Professor Tim Davies, Fremantle Hospital





Profile: ESIA Researcher Chris Brennan-Jones

Researcher Chris Brennan-Jones originally joined Ear Science Institute Australia (ESIA) as an audiologist and is currently undertaking his PhD at the University of Western Australia (UWA) through his research at ESIA. Chris is an adjunct research fellow at the Ear Science Centre UWA and has a passion for educating the public about hearing protection and therapy options.

His PhD research focusses on improving access to ear and hearing healthcare services using innovative telehealth techniques. A key component of his research involves examining the accuracy and efficiency of novel applications to automated audiometry in rural and urban settings. He is also an active clinician with the ESIA Hearing Implant Centre and is the Clinical Lead for the Commonwealth funded Health Ears – Better Hearing, Better Listening program. This program brings much needed ear and hearing healthcare services to children living in the Aboriginal communities of the East Pilbara, some of the most remote regions of Western Australia.

A prolific writer, Chris has a talent for making research in hearing health accessible to the general public. In 2014 he published three articles on ear and hearing health in the online newspaper "The Conversation." His October article "Health Check: what you need to know about ear wax" received over 250 000 readers in its first week of publication, a phenomenal achievement considering the next most popular article from UWA has 43 000 readers. A young researcher Chris has also published a range of articles in The West Australian including "Newborn hearing screening vital for giving

babies the best start (2350 readers) and Health Check: is your personal music player doing you damage (7500 readers).

Chris has published a range of academic articles for the Cochrane Database of Systematic Reviews working with ESIA's esteemed team of researchers. In 2014 his article "Auditory Verbal Therapy for promoting spoken language development in children with permanent hearing impairments" was submitted in consideration for the 2014 Valerie Alder Prize. Chris has contributed to multiple research projects written by his fellow researchers and is a key member of the ESIA research team.

Chris was recognized for his outstanding performance and team spirit in 2014 when he was awarded the ESIA Employee of the Year award with audiologist Lize Strachan. Upon receiving the award Chris stated he was "honoured to receive the award and he would like to thank ESIA for providing an environment that supports and encourages early career researchers and PhD students."

Valerie Alder Research Prize: ESIA research changes view on young children with middle-ear abnormalities

Professor De Wet Swanepoel has been awarded the coveted Valerie Alder Research Prize for his work in identifying a trend for children younger than 6 years of age to have significantly more middle-ear abnormalities, such as middle ear infection.

The research study reported on middle ear functioning and abnormality in the largest sample of children ever conducted. These abnormalities are amongst the most common childhood illnesses and often lead to temporary and even permanent childhood hearing loss.

The original purpose of the research was to provide clinical norms for middle-ear functioning in young children yet the data identified two surprising results. There was an 80% reduction in these abnormalities, such as middle ear infections, in 6 year olds compared to 5 year olds. Additionally seasonal influences had a surprisingly greater impact than originally believed, with increases of up to 3.5 times from one month to the next. September was identified as the peak month for middle-ear abnormalities in Perth.

Professor Swanepoel stated that the findings of his research "have important clinical implications for paediatric audiology and in school health screening for hearing loss and middle-ear abnormalities". His research recommendations are to simplify and change the referral criteria for middle-ear assessment to limit unnecessary referrals for both doctors and parents.

The findings of seasonal differences in the months will also provide invaluable information for the planning of large-scale school screening programmes for children and more accurately accommodate for these variations.

As a result of these findings Professor Swanepoel, together with his colleagues at the Ear Science Institute Australia, is conducting a follow-up study using this Raine Cohort of young children to investigate the incidence of hearing loss and identify the optimal referral criteria for hearing screening with pure tone audiometry.

Additionally he is investigating the use of smartphone based hearing screening for children to increase access to care for children and adults with hearing loss by capitalising on advances in technology and connectivity.

When notified of his award, Professor Swanepoel said it was a special honour to have been selected for this award from among his many esteemed colleagues and researchers at the Ear Science Institute Australia. He also acknowledged the invaluable contributions of fellow researcher Professor Robert Eikelboom for the ESIA and his US-based collaborator Professor Robert Margolis.



Education and Training

The Ear Science Institute Australia (ESIA) uses its significant wealth of scientific and clinical knowledge to deliver the best-in-class education and training to a wide range of medical and allied health professionals. Led by the ESIA Avant CENTER, ESIA uses its extensive international network to provide education to medical professionals from all over the world and ensure they can deliver the best evidence-based care.

This is achieved through the ESIA Avant CENTER which delivers world class education and training in the assessment, diagnosis and treatment of disorders of the head and neck. An integral part of ESIA's core purpose to improve the quality of life for people with ear and hearing disorders the ESIA Avant Centre provides specialist laboratory and scenario based training for a richer learning experience.

For specialists ESIA offers an excellent learning environment for suitably qualified and dedicated persons to contribute to research, clinical, and educational goals of the institute through two fellowships:

- Clinical Fellowship in Otology and Skull-base Surgery.
- Research Fellowship in Ear and Skull-base Surgery.

The Fellowship in Otolaryngology at ESIA and Department of Otolaryngology, Sir Charles Gairdner Hospital, provides a broad experience for surgeons who will assume leadership positions in academic centres and hospitals throughout the world. The Research Fellowship in Ear and Skull-base surgery is gained

with Sir Charles Gardiner Hospital in affiliation with the University of Western Australia and provides a surgeon extensive practical experience in otolaryngology surgery and skull-base and ear surgery.

ESIA uses state of the art technology to provide education and opportunities to medical professionals throughout the global community and is a well renowned leader in ear and hearing health.



Advanced Ear Surgery Course – Asia Pacific

In April 2014 the Ear Science Institute Australia' (ESIA) Avant CENTER hosted a three day Advanced Ear Surgery course for a delegation of Ear Nose and Throat specialists from Japan.

Winthrop Professor Marcus Atlas, ESIA's Director, led the delivery of the curriculum with support from an experienced international faculty. The course covered surgery skills, new concepts in the industry and revision of key topics.

These areas were covered with short lectures and supervised practicals, which allowed the international ENT specialists to gain vital hands on experience. The program involved intense workshops which involved dissecting cadavers, stapedotomy, lectures on hearing implants, and open cavity surgery.

After the intense three days the course participants walked away with a worthwhile learning experience. "The feedback from the surgeons was fantastic especially since many of the participants were from Japan where they do not have the ability to practice on cadaver material" said Dr Peter Santa Maria of the Stanford University faculty.

The faculty also included international personnel, including Dr Barry Tan from Singapore General Hospital who said "Marcus has once again organised an outstanding course. The course curriculum was very well thought out and the program complemented the temporal bone dissection perfectly. It was a pleasure to interact with other international and local faculty staff who brought such valuable insights to the course. The participants were great and followed our very systematic

approach to teaching temporal bone dissection. I also appreciated the very responsive support from the ESIA Avant CENTER staff and also the tremendous support from all the equipment vendors. The social events were fun and provided a good opportunity for bonding between faculty and participants and I thoroughly enjoyed myself during the three days that I was in Perth."

The Advanced Ear Surgery courses are held every year in the ESIA Avant CENTER. Every course is kept up-to-date with the latest technology and concepts in the field, providing trained professionals a great opportunity to develop their skills and be confident in their knowledge of the latest developments.

This year's course was run in partnership with DePuy Synthes and was also supported by Cochlear Ltd, Karl Storz – Endoskope and Grace Medical.





The ESIA Avant CENTER

2014 has been a year of growth and diversity for the ESIA Avant CENTER which continues to be a leader in the ENT specialist training field, with a commitment to excellence in skills training and development of health professionals. Working with the other areas of ESIA allows the ESIA Avant CENTER to bring clinical services, community and research into the education and training space.

Ear and hearing healthcare and the education of all medical specialists, from surgeons to aged care providers remains the focus of the ESIA Avant CENTER. Over 2000 attendees have participated in our courses in the last 12 months and we look to grow further in 2015.

We thank Avant, Australia's leading medical defence organisation (MDO) for their continued support of the facility and for their ongoing commitment to specialist education programs.

Medical Students

The ESIA Avant CENTER prides itself on being part of the medical framework from the ground up and we do this in a variety of ways. Firstly through our ongoing partnership with the University of Notre Dame Australia and their medical students. Over 300 Med students, were onsite receiving hands on, practical curriculum based training. Each year we bring together leaders in their fields, ENT surgeons, Audiologists, Speech Pathologists, ALS1 instructors and public health specialists to deliver course content. We also go onsite for student group events at University of Notre Dame Australia and University of Western Australia to showcase our courses and simulation

equipment. Medical students are invited to participate in surgical courses throughout the year as professional development and to meet the leaders in ENT.

Registrars

Our up and coming ENT registrar's are supported by the ESIA Avant CENTER's annual Breakfast with the Professors, which allows them to learn and ask questions in a supported environment. In April 2014 we also held the Registrar's Temporal Bone Dissection Course where they had two days with international, national and local ENT surgeons and had the opportunity to drill two temporal bones. From this they are also able to practice their drilling techniques onsite throughout the year.

Surgeons

Once again the ESIA Avant CENTER hosted the 2014 Advanced Ear Surgery Course – Asia Pacific. Nine Japanese ENT consultants were onsite in April for three days with course convenor Professor Marcus Atlas and world renowned international, national and local faculty. The course was sponsored by DePuy Synthes, Storz, Cochlear, MED-EL and Grace Medical. This annual event is a showcase of the ESIA Avant CENTER's capabilities. We would like to thank our generous sponsors and supporters, staff and volunteers who make events like this possible.

General Practitioners

General Practitioners (GPs) see such a range of concerns around hearing healthcare and the impact of hearing loss on the individual, family, and friends and even in their practices. Their education in the identification, treatment and referral pathways has been identified as one of the ESIA Avant CENTER priorities for 2014/15. From March 2014 all of the ESIA Avant CENTER courses for GPs were accredited with Royal Australian College of General Practitioners (RACGP), which allows for participants to collect professional development points for attending our courses. Course for GP's include Advanced Life Support 1, Ear Wax Management, Recognition and Management of Common Ear Disorders, ENT for Remote Area Health Professionals. Working with Medicare Locals we have also been able to provide our Tinnitus, Balance and Audiogram/Tympanometry short courses. Our Annual GP event held in March had over 100 GP's in attendance with specialists from ESIA onsite for presentations and hands on practice.

Nurses

Nurses also play a significant role in hearing healthcare and their training and education in this area is vital. Practice nurses, theatre nurses and specialist ENT nurses regularly come onsite for Airway Management, ALS1, ENT Nursing Skills, ENT Update and Ear Wax Management courses to name a few.

Audiologists

We work closely with the management and audiologists from the Lions Hearing Clinics and ESIA Hearing Implant Centre to determine training and knowledge gaps, then by linking our training to the Audiological Society of Australia we are able to provide them with professional, topical, hands on accredited training. Courses such as Ear Wax Management and ENT Update very popular and regularly booked out.

Aged Care

The Happy Hearing program run by the ESIA Avant CENTER trains aged care staff in the identification of hearing loss, communication methods, referral pathways and basic hearing device (hearing aid and cochlear implant) management.

The need for hearing healthcare education and training is vital. There is growing evidence of a bidirectional relationship between hearing loss and cognitive decline, such as with patients with dementia. Effective hearing aid use may reduce the rate of cognitive decline and provide better emotional and social well-being and greater longevity, leading to a healthier, happier and longer life. Happy Hearing equips aged care workers to identify hearing loss and implement hearing health management programs with the up to 90% of aged care residents with hearing impairment to reduce cognitive decline and improve the lives of the patients in their care.

This training is mapped to the aged care standards and is provided onsite at the facilities. Due to increasing demand and national requests for this service ESIA is currently seeking funding or a partnership to transform Happy Hearing into a eLearning structure to increase its reach across the aged care industry.

Venue Hire

2014 saw the ESIA Avant CENTER host other specialist organisations onsite. We were excited to partner with GN Otometrics, Arthrocare and Medtronic for onsite surgical and medical courses, ranging from half to three day courses. Working with specialists' organisations onsite enhances the scope of the facilities and increases awareness in the medical and surgical space. We look forward to ongoing relationships with these and other specialist medical services providers.

Ms Sharon Safstrom

Manager of Education, Training and Community Services

Clinical Services

The Ear Science Institute Australia (ESIA) is a clinical centre of excellence dedicated to high quality diagnosis, treatment and surgery related to the ear. Affiliated with world class otolaryngologists, ESIA is uniquely placed to address the issues faced by people who suffer ear, balance and associated disorders. Our long-established national and international networks, supported by our expert and highly dedicated staff, place us as a respected leader in the global field for clinical services. The services offered by ESIA are our Hearing Implant Centre, Balance Centre and Lions Hearing Clinics.

The ESIA Hearing Implant Centre is a world leader in implantable hearing devices and offer a variety of implantable hearing solutions including cochlear implants, electro-acoustic implant system, bone conduction implants and middle ear implants.

The ESIA Balance Centre offers a variety of diagnostic balance assessments and management strategies and the diverse team comprises of audiologists, ear, nose and throat specialists and other medical professionals.

The Lions Hearing Clinic is ESIA's provider for hearing testing services and products including hearing aids, assistive listening devices and hearing assessments. The clinics offer expertise in a wide range of hearing health issues including tinnitus, single sided deafness, children's hearing, invisible hearing technology and hereditary hearing loss.

Surgical services are offered by ESIA's acclaimed otolaryngologists whose specialties include otology, particularly skull-base surgery, middle ear surgery, hearing implants, chronic ear disease, Meniere's disease and semicircular canal dehiscence syndrome. Affiliated surgeons include Winthrop Professor Marcus Atlas, Professor Peter Friedland, and Dr Peter Santa Maria.



Hearing Aids: Now is the time to take action

Before this life changing moment Ian Craig was a fit 58 year old. He was active and healthy, undertaking numerous hobbies including surfing, swimming and trail bike riding. However, there was one thing which was causing Ian problems, and that was his hearing. Ian did not want to admit that his hearing loss was evident, he was simply not ready to face the reality that his hearing was being affected by age and family history. Ian first noticed that he was having a hard time understanding what others were saying about two years ago. Things only got worse from there, Ian was exhausted after work and also becoming socially isolated. "I was withdrawing from group conversations, struggling in meetings and driving my wife crazy by asking her to repeat herself." So finally Ian decided he needed to take action, see a Lions Hearing Clinic audiologist and get his hearing tested.

Many people have the same fear and worry about admitting to hearing loss. In fact one in six Australians experience hearing loss. Many of these people find it hard to face the fact that they cannot hear as well as they once did. However the team at the Lions Hearing Clinic have a variety of hearing solutions at their disposal. Like Ian, it may be hard to take that initial first step, but it is as simple as acknowledging the problem and booking an appointment for a hearing test.

Ian's hearing test confirmed that he could not hear high frequencies. Even though he could still hear people talking, understanding them clearly was a problem. His results indicated that he needed to be fitted with a hearing aid.

Despite the conclusive test result initially Ian did not want to wear hearing aids: "It seemed to me that if people saw me wearing hearing aids they would automatically perceive me as old. It just didn't fit with my self-image," Ian said.

However, Ian first realised the life transforming ability of the hearing aids the very first day his hearing aids were fitted. He now had more energy after work and even felt younger. "I'm a new man. I had no idea how much I was missing. And the irony is that I feel younger," Ian said. "The moment Lize, my audiologist, plugged my new hearing aids into my ears, I couldn't stop smiling. It was amazing...I could hear the birds again."

The Lions Hearing Clinic helps many people just like Ian. Audiologist Lize Strachan has witnessed many life changing moments during hearing aid fittings. "Many people find their first hearing test a daunting experience. However once they take that leap of faith, they never want to look back," Lize said.





Lions Hearing Clinic Report

Our vision as a team of audiologists and administrative staff at Lions is to always provide excellent hearing, excellent service and excellent advice to our clients. We are committed to learning and staying across all of the scientific and technological advances in our field so that we can provide the most up to date care for our hearing impaired clients. We think globally and act locally.

Our audiologists are involved in a range of research projects, continued development of our clinical protocols for adult aural rehabilitation, tinnitus assessment and treatment and paediatric assessment and auditory processing disorder assessment and treatment. We are all active participants in our monthly Journal Club. With many years of clinical experience amongst us, Audiologists' input ensures that our science is translational and will always have the aim of the continuous pursuit of excellent client outcomes and clinical application.

We have also been honoured throughout the year to be visited by international key opinion leaders starting with Dr Jay Hall who not only spoke at the ESIA Symposium, but also was guest of honour at the Lions Team dinner in June of this year. Dr Hall reiterated the importance of providing an evidence based standard of clinical care. Then in August, we were honoured to host Dr Bryan Taylor from the USA who gave us feedback around our Clinical Protocols. We were humbled to hear that our protocols are of an exceptional world class standard.

We have recently begun to streamline our clinical processes to constantly improve accurate record keeping yet having more time in appointments to ensure clients'

needs are satisfied. Time to have the conversation with our clients about what their needs are and to make a plan as to how we can achieve these is really important to us. We are also in the process of rolling out ways we can measure client's outcomes and satisfaction with our services.

As Lions is independent, we can scour the world for the very best and discrete technologies to fit our clients. We are proactively building strong and respectful relationships with our device suppliers to achieve this. These partnerships are very valuable as we aim to maintain and stretch our product knowledge. We have an open door policy with our suppliers to encourage them to spend as much time as is required to keep our team at the forefront of their products. With technology changing so rapidly it is critical that we stay abreast of new developments to maintain the quality of our service.

As the landscape for the delivery of hearing services is changing rapidly with the introduction of online hearing aid sales, chemists fitting hearing aids and aggressive cold calling campaigns, Lions has proactively taken the approach of developing a competitive, ethical and consistent marketing message online, on the radio and in newspapers. We are reminding the community what we stand for. Unique to Lions is our not for profit status and that all proceeds are channelled into research. Our Audiologists are not paid commissions nor work to sales targets. This comprehensive marketing campaign commenced in late September. We have also run competitions to win 10 free full hearing assessments, free trials of an invisible hearing aid and free hearing checks to

all adults. The Gift of Hearing Campaign was launched on 6PR radio raising awareness of the 1 in 6 Australians that have hearing loss and that our goal is to give the gift of hearing to 1500 West Australians by Christmas of this year. Our tag line is "Success you can hear". An overwhelming response from the community has already been felt, with record numbers of new clients making appointments to see members of our clinical team.

Team Work

Our success at Lions is dependent upon strong leadership, clear and respectful communication, and a true team approach. In order to achieve this, as we are a large, diverse, and co-located team, we have developed an infrastructure to seamlessly carry out the way we do business.

As the Manager of Lions Hearing Clinic, I work closely with Lize Strachan the Operations Coordinator and Lauren Shepherd the Administration Coordinator. We have also been recently joined by Varsha Matthew and Jeremiah Soo as Team Leaders. Beverley Eintracht coordinates our Tinnitus Program, Karin Van de Merwe coordinates our Paediatric Program and Tennille Crooks coordinates our Journal Club. This structure allows us to implement change, refine processes and communicate effectively in a timely and constructive way, ensuring a quality approach to all that we do.

Our reputation precedes us as record numbers of Audiologists are registering their interest to come join the Lions Team. We are getting the balance right between providing excellent training and education, a fun and progressive culture, and a work place where our professional staff can have a real career in audiology, pursuing their passion in one of the many areas of audiology service delivery.

On a personal level, it is my most sincere pleasure to be heading up the team at Lions. With a clear vision, uncompromising ethics and strength in our knowledge and evidence based approach, Lions is poised to make

the transition more seamless for those struggling with hearing loss to the end goal of best hearing possible. We warmly welcome the hearing impaired community to join us in the Lions Family.

Sandra Bellekom
Manager, Lions Hearing Clinic



Profile: Ms Angela Liew

A fascination for sciences led Ms Liew to study biochemistry and microbiology at the University of Western Australia straight from high school, but as she progressed through her studies Angela realised something was missing. She identified a desire for greater interaction with people and to be engaged in something that made a more immediate difference to their lives.

On completion her Master of Clinical Audiology, Angela commenced clinical practice as an audiologist in 2008 and has since focussed on hearing aids, hearing rehabilitation and tinnitus management via the Neuromonics program. Angela enjoys the challenge of the uniqueness of her individual clients hearing problems and finding the best solution for each of them.

Angela's passion for her work is evident in her enthusiasm and derived from the satisfaction she feels by helping her clients reconnect with their loved ones and overcome the problems of debilitating tinnitus.

Angela has, for several years, been supervising audiology students, and she recognises this as an opportunity not only to develop their audiological knowledge but also to impart some of her enthusiastic spirit and passion to inspire them to be the best clinicians they can be.

An interest in the audiology industry and the impact of business decisions on clinical practice and client care led Angela to commence her Master of Business Administration in 2012 at UWA. Whilst she is finding the learning curve steep, the new perspective and challenge

keeps Angela focussed and she hopes to complete the course by the end of 2015.

Angela joined the Lions Hearing Clinic in June 2014 and is based predominantly in Subiaco. Given her science background, she finds the ESIA's blend of research, education and evidence based clinical practice to be the ideal approach and has found her move to the organisation the perfect change.



Profile: Ms Lauren Shepherd

Ms Lauren Shepherd moved to Perth from her native Auckland, New Zealand in December 2011. Her experience as a medical receptionist led to her appointment as part of the Lions Hearing Clinic administration team in February 2012 providing holiday and sick leave relief to the clinic administration staff and conducting important administration projects.

Lauren's role has given her a great insight into many different aspect of the business and industry. Her flexibility and positive attitude to her role means that Lauren has been involved in a wide variety of projects including developing our referrals database and assisting with a major archiving project. Her experience at the Lions Hearing Clinic has opened her eyes to the quality of life issues faced by people with hearing loss and how well fitted hearing aids can make all the difference.

This has led Lauren to seek further knowledge and understanding of hearing loss and devices and she is now studying audiometry with the Open Training and Education Network (OTEN), a part of TAFE.

Lauren says "Moving to Perth has been one of the best decisions I have ever made. I love the beachy relaxed lifestyle, I'm close to my sister and it's great to be with her and to see my nephew growing up. I appreciate the great working opportunities with ESIA and Lions Hearing Clinic."





ESIA Hearing Implant Centre Report

This year the Ear Science Institute Australia (ESIA) Hearing Implant Centre celebrated its 10th year of operation. From its humble beginnings at Sir Charles Gairdner Hospital in 2004 with only 14 cochlear implant recipients, it has become a major service provider of not only cochlear implants but also bone conduction hearing implants, middle ear implants and electric-acoustic (or hybrid) hearing implants. The ESIA Hearing Implant Centre provides multifaceted support to over 450 hearing implant recipients.

The last financial year showed significant growth in cochlear implant numbers with implants increasing by a third of the previous year's total. We attribute this to the growing awareness of the program as it continues to gain publicity and credibility. In addition, the expansion of cochlear implant criteria enables more people to be eligible for hearing implants and this has also increased awareness and suitable candidates for the program.

The ESIA Hearing Implant Centre continues to diversify and grow and 2014 has been a big year with the expansion from an adult service to whole of life care. A large proportion of the year has been spent setting up and developing the paediatric cochlear implant program, and this culminated in the official launch of EnginEars, the Hearing Implant Program for Kids, on October 15th by the Hon Tony Simpson MLA.

Cochlear implants

We have recently seen advances in internal and external cochlear devices. These have ranged from automated sound management systems to improve speech understanding in noisy environments, to

advancements in device connectivity to take advantage of future wireless technology. A major improvement for our clients who enjoy the beach lifestyle in Western Australia has been the Aqua+ and WaterWear accessories which provide the freedom to participate and enjoy water activities whilst wearing their cochlear devices.

Bone Conduction Implants

The past year has seen a significant advancement of the available technologies in Australia for people using bone conduction hearing implants (BCIs). The major breakthrough in the realm of bone conduction implants in the last year has been the introduction of a special magnetic implant that contains an active vibrating component (Active transcutaneous BCI). This approach has completely eliminated the feedback problem that may occur with some BCI devices, eliminates the dampening effect of skin and improved the aesthetic of the device even further by sitting flat to skull.

Additionally, in the past year external processors have moved with technology to become wireless compatible and enable recipients to benefit from connectivity to Bluetooth compatible system such as mobile phones, televisions, computers, MP3 players and remote controls.

Education and Research

As technology continues to develop at a rapid rate, our implant audiologists continue to learn and be part of the research and development of new devices. This is a core strength of the ESIA Hearing Implant Centre; the ability to integrate clinical, research and educational expertise

and resources to continue to provide our patients with cutting edge, evidence-based best practice.

ESIA's audiologists Azadeh Ebrahimi Madiseh, Dona Jayakody and Joanne Sahdeo attended the 13th International Conference on Implantable Devices and Other Implantable Auditory Technologies in Munich, Germany, 18-21 June 2014. There was more than 2000 international attendees at the meeting and ESIA was well presented at the International meeting with Director Winthrop Professor Marcus Atlas and Dr Dona Jayakody invited to present several papers.

The main research areas that the ESIA Hearing Implant Centre has been involved in this year have revolved around hearing loss and cognition, neural mechanisms of hearing, patient management skills of cochlear implants and reviewing and assessing new speech tests. A special thanks to all our recipients who have volunteered in one or more of the projects. Their input and time is extremely valuable to assist ESIA to be able to produce high quality research that positively influences our clinical care.

Support Groups

ESIA Hearing Implant Centre strives to support our recipients in any way it can. A fundamental area of this is providing or facilitating various support groups that recipients or potential recipients can tap in to for information, emotional support or simply to have a chat. ESIA has a long standing relationship with the WA Cochlear Implant Club and Advisory Association (CICADA) group. The ESIA Hearing Implant Centre in collaboration with the CICADA WA group host their evening meeting at the ESIA Head Office premises in Subiaco. The meetings are both informative, social, fun, interactive and very beneficial for someone who is considering whether or not to proceed with cochlear implants. In addition, this year two other support groups have really evolved; the CISS and YAWI groups.

CISS is co-ordinated by one of our recipients Jane Goodfellow and stands for the Cochlear Implant Social Support group. CISS is a new support group for

cochlear recipients (and anyone considering a cochlear implant) in employment or study. The CISS group aims to support our members to navigate a range of employment and study issues unique to those who wear cochlear implants. Meetings are casual and friendly affairs held in cafes around Perth. Current members are experienced cochlear users and can provide advice, support or just a friendly ear (with a cochlear implant attached).

Our Clinical Coordinator and Senior Audiologist, Ronel Chester-Browne coordinates the YAWI group or Young Adults with Implants group. This group involves recipients aged 18 to 30 years of age. Initially it was only for young adults with cochlear implants however there has been such interest from young adults with severe-profound hearing loss who wear hearing aids that the group has been extended to include all young adults with hearing loss. During meetings general topics of interest of the group are discussed, that is, latest technology, coping with a hearing loss at work, how to deal with the telephone etc. The YAWI group meets once every 3 to 4 months at the ESIA building.

With another busy year under our belt this would not have been possible without the dedication and hard work from a truly fabulous team. Next year aims to continue to grow awareness of the benefits of cochlear implantation and other implantable hearing devices, consolidate and grow EnginEars, the paediatric hearing implant program, and further embed our clinical activities with research to ensure our hearing implant recipients continue to receive the highest level of care from our team.

Gemma Upson

Manager, ESIA Hearing Implant Centre

Implant Recipient Story: Three generations of cochlear implants

Over the last nine years, one family has received the gift of hearing through cochlear implants three times. Leslie French (72), his daughter Jody Maitland (39) and his grandson Hayden Maitland (10) have all suffered varying degrees of hearing loss yet through the amazing technology of cochlear implants and the careful hands of the Ear Science Institute Australia's (ESIA) Director Professor Marcus Atlas, they are now able to hear with clarity and understand the words their loved ones speak.

With a family history of hearing loss, Jody Maitland ensured her son Hayden had a hearing screening as a newborn. He passed the hearing screening but to ensure any potential hearing loss was picked up quickly, Jody had his hearing monitored every six months.

This regular testing meant that Hayden's hearing loss as a toddler was quickly identified and it progressed to a need to be fitted with his first hearing aid at the age of four. Since then, Hayden's hearing loss has further deteriorated to a need for a hearing aid in his left ear and a cochlear implant in his right ear due to severe to profound deafness.

The driving force behind the monitoring of Hayden's hearing loss was his mother Jody Maitland and the impact hearing loss had on her life. A cochlear implant recipient herself, Jody was born with hereditary hearing loss in both ears.

She was diagnosed as having a hearing loss at the age of eight after her mother Kathleen persisted on having second opinions, knowing that something was wrong.

However it was not until the age of 32 that she received two cochlear implants, one in each ear, to assist her with looking after her two young children.

Jody believes the impact of the years she lost to almost silence in the classroom was significant. "If I was diagnosed earlier, I believe I would have performed better in school and gone on to further studies and to University" Jody said. "Hayden is at such a crucial point in his schooling, soon he'll be going to high school and we've gone through the ESIA Hearing Implant Centre to get the best possible care and hearing outcomes for him so he can excel in his studies."

Jody was motivated to receive her cochlear implants late in life after seeing the positive impact it had on her father Leslie French's life.

Mr French had lived with significant hearing loss in one ear and total deafness in the other for many years. He had used hearing aids but working in the building industry, he believes the loud noise greatly contributed to his hearing loss.

"I had hearing aids but they just made things louder. I couldn't understand what people were saying when receiving on the job training or in meetings. I know it impacted my career, I could have gone further if I had been able to understand what people were saying".

In 2005 Mr French received his first cochlear implant in his deaf ear after his GP identified he may have been a candidate for cochlear implants. "I had been told before that I wasn't a candidate but my GP thought I might be,

so he gave me a referral to Professor Marcus Atlas and it turned out I was a candidate!" Mr French scheduled in his appointment and soon was receiving treatment.

"It was so great" he said. "I could hear sounds I had never been able to hear before, like birds chirping off in the distance or car horns honking. The clarity was unbelievable. I wish I had it done sooner."

Within 2 years, Mr French had booked in to have his second cochlear implant in his other ear and his daughter Jody received hers at the same time.

The otolaryngologist performing the surgery was also of key importance to the family. Mr French had his cochlear implant surgery performed by Professor

Marcus Atlas of the ESIA Hearing Implant Centre, Subiaco. When it came time for his daughter Jody to have her implant she also chose Professor Atlas. "It was a natural choice to go back to Professor Atlas for Hayden's surgery" Mrs Maitland said. "He knows our story and has been with us on this journey and he's the one I trust to do the surgery on Hayden".

Hayden's surgery was successful and he was surrounded by family in the ESIA Hearing Implant Centre in Subiaco, with his mother at his side as he became the third generation of his family to receive the gift of hearing from Professor Marcus Atlas.





Profile: Ms Joanne Sahdeo

Ms Joanne Sahdeo joined the Ear Science Institute Australia (ESIA) Team in 2012 bringing over 10 years of clinical experience working with hearing aids in local and international clinical practices. During the last two years at the ESIA Hearing Implant Centre she has added to her clinical portfolio and started specialising in bone conduction implants, cochlear implants and more recently middle ear implants.

Joanne coordinates the Cochlear Implant Club and Advisory Association (CICADA) Support group's evening meetings which are held in ESIA's Subiaco board room once very quarter. A real 'people person' who loves the chance to help our clients and socialise, Joanne has helped to make these gatherings fun and informative, organising activities such as the 'Trivia Night' and 'Rehabilitation Workshop' supported by local staff from Med El.

Ms Sahdeo is a full member of the Audiological Society of Australia and holds a current Certificate of Clinical Competence. In addition to her dedication to audiology she has a passion for public health. This prompted her to complete her Master's in Public Health (with specialisation in Disaster Management) in 2008 and she is a full and active member of the Public Health Association of Australia, where she serves as the WA Representative on the National Primary Health Care (PHC) Committee.

Her public health involvement has served to raise the profile of ESIA since she facilitated the inclusion of ESIA staff, projects and activities in National PHC newsletters and promoted the community health work of the organization to the World Health Organization.

Joanne is also involved in training and educational activities at the ESIA, regularly presenting at the Hearing Awareness Week free public seminars, where she focusses on her specialist area of single sided deafness and coordinates talks from other industry representatives. Joanne is involved in training of medical students and audiology professionals and was part of the ESIA team that brought hearing healthcare education to rural groups via the Rural in Reach video tele-conferencing program. Joanne has consolidated and enhanced her training experience with a Certificate IV in Training and Assessment qualification.

Joanne is a keen volunteer and greatly appreciates the value of team spirit. Volunteering at the last three ESIA Gift of Hearing Appeal Dinners she is a valuable part of the team that makes that evening such a memorable and successful event. In 2014 Joanne initiated ESIA's first 'Admin Appreciation Day' to acknowledge and show appreciation of the hard work and dedication of the administration staff at ESIA.



Profile: Ms Charmaine Gibson

Ms Charmaine Gibson joined the Ear Science Institute Australia (ESIA) Hearing Implant Centre in July 2014 as its first speech pathologist. Charmaine began her career in 1989 after graduating from Curtin University. She has a breadth of experience working with paediatric caseloads in health, education and disability services in Australia and the United Kingdom. An interest in cochlear implantation resulted in her appointment to the Children's Cochlear Implant Program at Princess Margaret Hospital in 1997 with training provided by the Sydney Cochlear Implant Centre.

Charmaine currently provides clinical support and rehabilitation to children who have or are receiving cochlear implants through the EnginEars program. She carries out speech and language assessments and provides rehabilitation as required. Her role includes consultation with teachers of the deaf and presentations to the wider community.

Ms Gibson is a full member of the Speech Pathology Association and holds a current certification to lead the Hanen It Takes Two to Talk and Target Word programs. She has presented talks at the ESIA Hearing Awareness Weeks Seminar Series and looks forward to presenting to university students in the new year.

Charmaine currently divides her time between ESIA and The Centre for Cerebral Palsy supporting families with children with disabilities. Charmaine has a particular interest in early childhood intervention with helping young children developing their communication skills. She aims to provide parents and families with the knowledge, skills and support to meet the needs of their child and to optimise the child's development and ability to participate in family and community life. Services are provided using a family-centred approach, recognising the importance of working in partnership with the family members.

Community Services

Ear Science Institute Australia (ESIA) is focused on improving the hearing health of our community and continues to actively raise awareness by developing and delivering targeted programs and education strategies to protect hearing.

As a world-leading medical research organisation, ESIA is committed to raising awareness of hearing impairment and providing education regarding treatment, management and prevention strategies. We are pleased to showcase a range of our community engagement projects.



Volunteering at ESIA

The ESIA volunteer program was launched in June 2010 working in close collaboration with Volunteering WA and the Subiaco Volunteer Hub to develop clear policies and guidelines. The need for two different types of volunteers was identified: volunteers who can assist on a regular basis (one or two days per week) and volunteers who are available for specific projects, such as hearing awareness.

In the last 12 months, project-based volunteers have provided assistance as needed. ESIA volunteers have the opportunity to work in a variety of areas depending on their skills, interests and the availability of positions. Areas include the Lions Hearing Clinic, ESIA Implant Centre, research, administration, community education, functions and marketing.

ESIA volunteers are part of the ESIA team and included in all staff functions and application training days. Training, mainly on the job, is provided for all tasks and volunteers are assigned a staff member as a 'buddy' to ensure constant team contact. Tasks range from packing Cheers for Ears bags to maintaining hearing aids for the Lions Hearing Aid Bank. Volunteers also assist in the clinics with general administrative work, with research projects (data entry) and compiling databases.

Volunteers come to ESIA for various reasons and from a wide variety of backgrounds. For many, it offers work experience, social interaction and improved English skills, among other benefits. This community support is invaluable and the team at ESIA thanks each volunteer for their generosity and hard work.

OUR 2014 VOLUNTEERS

- Ms Judy Kazmirowicz
- Ms Chris Smelt
- Mr Ian Smelt
- Ms Vanessa Panak
- Mr Shakti Kantilal
- Ms Stephanie Lua
- Mr Ronak Shah
- Ms Rebecca Swinmurn
- Mr Abhi Menon
- Ms Belinda Rahaley
- Ms Cathy Zhou
- Ms Ginny Lannigan
- Ms Jan Horsman
- Ms Jenni Daniel
- Ms Linda Harper
- Mr Luke Bagshaw
- Ms Megan Andrews
- Ms Nilgun Koca
- Ms Pamela Caniglia
- Ms Stephanie Carrick

Cheers for Ears

The Cheers for Ears campaign aims to educate children on the dangers of noise-induced hearing loss (NIHL) from exposure to loud music, focusing on personal music players (PMPs), such as iPods, and other entertainment noise. Since its launch in 2010 ESIA's award-winning Cheers for Ears program has reached over 30,000 children across 315 schools in metropolitan and rural Western Australia.

Innovation is ingrained into the Cheers for Ears program with over 15% of 10-12 year old WA children willingly engaged by the education message. We have continually pushed the health promotion and science boundaries to keep the program enjoyable, interesting and relevant to our target audience.

Continual innovation is evidenced by the following developments:

- **Safe Hearing Suzie** is a sound level meter and hearing loss simulator built in to a mannequin head. PMP headphones can be inserted into her ears and she will read the decibel level of the music being played. Suzie also simulates various types of hearing loss providing students with a firsthand experience of what music would sound like with a hearing impairment.
- **Epic Ear Defence** is a fun and educational computer game about the dangers of prolonged exposure to loud noise. The game was developed in partnership with the School of Information Technology at Murdoch University and can be accessed on ESIA's website: <http://cheersforears.org.au/cheersforears/EED/WebPlayer.aspx>
- **Safe and Sound** is a smart phone 'app' for monitoring PMP sound level exposure, tracking the daily dose of

noise and providing warnings when safe limits are near to being reached. The app can be downloaded from the ESIA website.

- **Cheers for Ears Charlie** is the much-loved program mascot who visits different events to promote the Cheers for Ears message.

The Cheers for Ears program continues to be delivered to children via free-of-charge, interactive classroom education sessions. Cheers for Ears aims to educate children on hearing protection strategies when in noisy environments and aspects of ear and hearing health care with a particular focus on the use of PMPs. The sessions involve videos explaining how we hear, discussions on what can cause hearing loss and the effects of hearing loss. Activities are designed to increase awareness of NIHL and to provide strategies for avoiding risk exposure.

The development of Cheers for Ears was enabled by funding through the Australian Government's Department of Health and Ageing Hearing Loss Prevention Program (2009-2012). In 2014 ESIA welcomed the Rotary Club of Belmont to the ESIA Cheers for Ears team as our inaugural service club supporter of the program, with special thanks to Michele Alexander and Petro Recchia. Service clubs are being invited to invest in their local primary schools by supporting the Cheers for Ears program. Ongoing funding is currently being sought to continue this important program and ensure further development, including national expansion.

Lions Hearing Bus

The Lions Hearing Bus, is a mobile audiology testing unit provided by the Lions Hearing Foundation which works closely with the Ear Science Institute Australia (ESIA) to attend community events throughout Perth and regional Western Australia. Each year the number of people tested increases, as does the volunteer team that runs the Bus for the Lions Hearing Foundation. In 2014 over 1200 free hearing tests were conducted with 58% of people tested being referred for further assessment.

The Bus has attended various workplaces to provide accredited WorkCover hearing tests and workplace hearing screenings. In 2014, 134 people were tested at workplaces in metropolitan Perth. Using its refrigeration facilities, Lions Hearing Bus staff are now able to take ear moulds to make customised earplugs for hearing protection. Educational services can also be packaged with the Bus, with expert trainers from the ESIA Avant CENTER providing hands on practical noise induced hearing loss prevention training.

Each year the Bus is present at the George Jones Family Centre, ESIA's head office in Subiaco, for the annual Hearing Awareness Week Seminar Series where it provides easy community access to free hearing screenings. The Lions Hearing Bus team works closely with ESIA and the Lions Hearing Clinics to ensure all information provided, referral processes, technology and screening techniques are up-to-date.

The unique partnership between ESIA and the Lions Hearing Foundation ensures the ongoing growth of this vital community service. This team comprises of members of the Lions Hearing Foundation, volunteer

drivers and testers and the hard work of Christina Smelt, the Chair of the Lions Hearing Foundation, who coordinates the Bus's program, performs screenings and is also accredited with WorkCover WA to provide hearing tests.

ESIA is now also working closely with the University of Western Australia to provide increased services on the Lions Hearing Bus in the future, such as lung function testing, blood glucose testing and other associated fitness and health checks.



Happy Hearing

The Happy Hearing program is central to the Ear Science Institute Australia's (ESIA) community education and training programs. With tailored training packages available for medical specialists, allied health professionals and care facility staff, its core units consist of identifying hearing loss, communication strategies with the hard of hearing and the care and repair of hearing aids. Additional information units can be added that address assistive listening devices, cochlear implants, room acoustics and hearing protection.

Happy Hearing has been successfully delivered to over 45 aged care facilities over the past seven years in metropolitan and regional WA. Annual bookings are common and assist the facilities to meet their audit requirements for sensory loss. Prior consultation with the facilities (aged care, hospital or community care) has ensured customised training can meet the specific knowledge needs of the industry. The program is reviewed regularly to ensure it maintains compliance with Aged Care Standards.

The program has been tailored for GP practices and it will have RACGP accreditation in 2015. Happy Hearing continues to be a part of the University of Notre Dame Australia School of Medicine's Ear Week. Topics such as identification of hearing loss, barriers to effective communication and best practice

communication techniques were presented. Analysis of the physical areas of the medical practice also plays a part in the program, identifying areas that are noisy, echo and can negatively impact communication.

Practical, hands-on information sessions entitled Community Impact of Hearing Loss and Cochlear Implants continues to be presented to the Notre Dame University's first year medical students and is very well received.

2015 will see further development of Happy Hearing with the examination of the feasibility of delivering the program to regional, interstate and even overseas areas utilising eLearning software.



Hearing Awareness Week

Each year the annual Hearing Awareness Week occurs in August, where organisations in the hearing industry conduct activities promoting awareness of hearing loss, hearing services and other hearing related conditions. Over the last 5 years the Ear Science Institute Australia (ESIA) has participated in Hearing Awareness Week with a growing range of activities centred on free community education and hearing screenings with over 1500 people attending the event to date.

In 2014, experts from all areas of ESIA and the extended hearing healthcare community participated in the delivery of free public seminars. Specialists from Lions Hearing Clinics, ESIA Hearing Implant Centre, ESIA Balance Centre, ESIA Avant CENTER and the ESIA research team delivered talks on 15 hearing related topics to members of the metropolitan community throughout the week.

To extend the reach outside of Perth and into the regional and remote areas of Western Australia, these talks are now recorded, with live broadcasting trialled for a selection of the most popular talks.

The ESIA's continued relationship with Women's Health and Family Services, Rural In Reach program enabled us to deliver our popular "Single Sided Deafness" ESIA Hearing Awareness Week talk to regional areas via video conferencing through the Community Resource Centres, and also to join with WestLink to run a professional question and answer session on Children and the Impact of Hearing Loss. This was recorded and broadcast out through the WestLink satellite system.

These sessions are all recorded in order to be made available to the public in the future.

RAC WA also joined with us for the first time to provide Lunch and Learns to their workforce, educating them on the risks of noise induced hearing loss, the impact of hearing loss and hearing aids.

Our leadership in this community space will grow further in 2015, linking with the Deafness Council of WA to bring all ear and hearing healthcare and community groups together for a combined approach to Hearing Awareness Week in 2015. Sharon Safstrom, our Manager for Education, Training and Community Services is the co-secretary of the Deafness Council and is spearheading this project for ESIA and Deafness Council of WA.

ESIA in the News

Sharing details about ESIA's research activities and how findings can help contribute to better ear health in Australia and around the world has been an important area of communication in which the Institute has placed particular effort over the past 12 months. Similarly, ESIA has sought to promote important partnerships, patient stories, community activities and events and education programs.

Subsequently, the profile of ESIA has been raised within the community, particularly through recent and regular features in the media. During the year, ESIA has been featured in extensive coverage in publications including The West Australian, Medicus and Medical Forum and also on the radio in topics relevant to the community and the medical profession.



Awards and Honours

1. 2014 Science Hall of Fame Inductee
Professor Lyn Beazley
2. 2014 West Australian 'Australian of the Year'
Professor Lyn Beazley
3. 2014 Celebrate WA 'Professions Award' Finalist
Winthrop Professor Marcus Atlas
4. 2014 Western Australian Finalist 'Australian of the Year'
Winthrop Professor Marcus Atlas
5. 2014 AIM/WestBusiness Pinnacle Award 'WA Business Leader of the Year' Finalist
Winthrop Professor Marcus Atlas
6. 2014 Telstra Young Business Woman of the Year State Finalist
Ms Gemma Upson
7. 2014 Valerie Alder Research Prize
Professor De Wet Swanepoel
8. 2015 FIA Young Fundraiser of the Year WA
Ms Laura Kazmirowicz

Publications and Presentations 2014

Publications

Allardyce BJ, Rajkhowa R, Atlas MD, Dilley RJ, Wang X. Silk films as a robust support to repair large perforations of the tympanic membrane. Proceedings of The 89th Textile Institute World Conference, 2-6 Nov 2014, Wuhan, China.

Biagio L, Swanepoel D, Laurent C, Lundberg T. Paediatric otitis media at a primary health care clinic in South Africa. *South African Medical Journal*, 104(6):431-435; 2014.

Biagio L, Swanepoel D, Laurent C, Lundberg T. Video-otoscopy recordings for diagnosis of childhood ear disease using telehealth at primary health care level. *Journal of Telemedicine and Telecare*, 20(6):300-306; 2014.

Brennan-Jones CG, Whitehouse AJO, Park J, Hegarty M, Eikelboom RH, Swanepoel D, White JD, Jamieson SE. Prevalence and risk factors of recurrent otitis media during early childhood in Western Australia: a prospective birth cohort study. *Journal of Pediatrics and Child Health*.

Clark JL, Swanepoel D (2014). Technology for Hearing Loss - as We Know It, and as We Dream It. *Disability and Rehabilitation: Assistive Technology*, 9(5):408-413; 2014.

Dunne B, Marr T, Andrews D, Larbaletier R, Edwards M, Merry C. Infective endocarditis. *Journal Heart Lung Circ*. 23(7): 628-635; 2014.

Eikelboom RH, Swanepoel D. Tele-audiology. In: *Electronic Medicine, Electronic Health, Telemedicine, Telehealth, and Mobile Health*. Ed: H Eren. CRC Press, Boca Raton, FL.

Eikelboom RH, Jayakody D, Swanepoel D, Chang S, Atlas MD. Validation of remote mapping of cochlear implants. *Journal of Telemedicine and Telecare*, 20(4): 169-175; 2014.

Granberg S, Pronk M, Swanepoel D, Kramer SE, Hagsten H, Möller C, Hjalldahl J, Danermark B. The ICF Core Sets for Hearing Loss Project: Functioning and Disability from the Patient Perspective. *International Journal of Audiology*. 53(8):497-506; 2014.

Haeri Mazanderani AF, du Plessis N, Lumb J, Feucht UD, Myburgh M, Mayaphi SH, Lekalakala MR, Swanepoel D, Georgakis H, Avenant T. Recommendations for the medical evaluation of children prior to adoption in South Africa. *South African Medical Journal*, 104(8):544-555; 2014.

Heinze B, Swanepoel D, Vinck BM. Does the human immunodeficiency virus influence the vestibulocollic reflex pathways? A comparative study. *Journal of Laryngology & Otology*. 128(9):772-9; 2014.

Le Roux T, Swanepoel D, Vinck BM. Profound childhood hearing loss in South Africa: Risk profile, diagnosis and age of intervention. *International Journal of Pediatric Otorhinolaryngology*.

Lundberg T, Biagio L, Laurent C, Sandström H, Swanepoel D. Remote evaluation of video-otoscopy recordings in an unselected pediatric population with an otitis media scale. *International Journal of Pediatric Otorhinolaryngology*, 78(9):1489-1495; 2014.

Marano RJ and Ben-Jonathon N. Minireview: Extrapituitary Prolactin: An Update on the Distribution, Regulation, and Functions. *Molecular Endocrinology*. 28(5):622-33;2014.

Meyer ME, Swanepoel D, le Roux T. National survey of paediatric audiological services for diagnosis in the private health sector of South Africa. *South African Journal of Communication Disorders*. 61(1), Art. #62, 8pages; 2014.

Palomo ABA, Lucas M, McLenachan S, Requena J, Farrera Sal M, Dilley RJ, Lucas A, Chen F, Alvarez I, Jaraquemada D, Edel MJ. The power and the promise of cell reprogramming: Personalized autologous body organ and cell transplantation. *Journal of Clinical Medicine*. 3(2), 373-387;2014.

Potgieter JM, Swanepoel D, Heinze B, Hofmeyr LM, Hamersma H. An auditory profile of sclerosteosis. *Journal of Laryngology & Otology*.

Santa Maria PL, Gluth MB, Yuan Y, Atlas MD, Blevins NH. Hearing Preservation Surgery for Cochlear Implantation – A Meta-Analysis. *Otology and Neurotology*. 35(10):e256-69; 2014.

Santa Maria PL, Abuzeid WM, Nayak JV, Chang SD, Blevins NH. A Case of Stereotactic Radiation in Skull Base Solitary Fibrous Tumor – More Harm Than Good? JNLS Report.

Santa Maria PL, Oghalai JS. When is the best timing for the second implant in pediatric bilateral cochlear implantation? *Laryngoscope*.

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Scheepers L, Swanepoel D, le Roux T. Why parents refuse newborn hearing screening and default on follow-up rescreening – a South African perspective. *International Journal of Pediatric Otorhinolaryngology*, 78(4):652-658; 2014.

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Strauss S, Swanepoel D, Becker P, Eloff Z, Hall JW III. Noise and age related hearing loss – a study of 40 123 South African Gold Miners. *International Journal of Audiology*. 53 (suppl 2):S66-75; 2014.

Stroebel D, Swanepoel D. Does parental experience of the diagnosis and intervention process differ for children with auditory neuropathy? *International Journal of Pediatric Otorhinolaryngology*. 78(12):2210-2215;2014.

Swanepoel D, Eikelboom RH, Margolis RH. Revisiting tympanometry screening in school-entry children 5 to 7 years of age. *Journal of the American Academy of Audiology*. 25:927-936;2014.

Swanepoel D, Myburgh H, Howe D, Mahomed F, Eikelboom RH. Smartphone-based hearing screening with integrated quality control and data management. *International Journal of Audiology*.

Swanepoel D, Scheepers L, le Roux T (2014). Why parents refuse newborn hearing screening in South Africa. *International Journal of Pediatric Otorhinolaryngology*, 78(7):1197-1198.

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Wang AY, Shen Y, Wang JT, Eikelboom RH, Dilley RJ. Animal models of chronic tympanic membrane perforation. In response to: Plasminogen initiates and potentiates the healing of acute and chronic tympanic membrane perforations in mice. *Clinical and Translational Medicine*. 3:1-5; 2014.

Wang AY, Shen Y, Wang JT, Friedland PL, Atlas MD, Dilley RJ. Animal Models of Chronic Tympanic Membrane Perforation: a 'Time-Out' to Review Evidence and Standardize Design. *International Journal of Pediatric Otorhinolaryngology*. 78(12):2048-2055; 2014.

White J, Brennan-Jones CG. Auditory Verbal Therapy: Improving the Evidence-Base. *Deafness & Education International*.

Presentations and Posters

Atlas M, Taljaard D, Brennan-Jones C, Bucks R, Eikelboom R. A systematic review of the impact of hearing loss on risk of cognitive impairment. A systematic review of the impact of hearing loss on risk of cognitive impairment. Australian Society of Otolaryngology Head and Neck Surgery Annual Scientific Meeting (ASOHNS), Brisbane, 29 March – 1 April 2014 [poster]

Bennett R, Taljaard D, Eikelboom RH. Validation and modification of the PHAST-R. Sensitivity and specificity of self-reported hearing difficulty in adults over 60 years of age. 32nd World Congress of Audiology, Brisbane, 3-7 May 2014.

Bennett R, Taljaard D, Eikelboom RH. Development of a self-administered hearing aid management survey: the PHAST-self. 32nd World Congress of Audiology, Brisbane, 3-7 May 2014.

Brennan-Jones CG, Whitehouse AJO, Hegarty M, Park J, Eikelboom RH, Swanepoel D, White J, Jamieson SE. Prevalence and risk factors of recurrent otitis media and its effects on later language development: results from the Raine Cohort. 32nd World Congress of Audiology, Brisbane, 3-7 May 2014.

Brennan-Jones CG, Eikelboom RH, Swanepoel D, Friedland P, Atlas MD. Clinical validation and diagnostic test accuracy of the KUDUwave automated audiometer in hearing-impaired adults. 32nd World Congress of Audiology, Brisbane, 3-7 May 2014.

Brennan-Jones CG, Eikelboom RH, Swanepoel D, Friedland P, Atlas MD. Clinical validation and diagnostic test accuracy of the KUDUwave automated audiometer in hearing-impaired adults. *Frontiers 2014 – 9th Biennial Conference*, Sydney, 30 July – 1 August 2014. [poster]

Brennan-Jones CG, White J, Rush R, Law J. Auditory-verbal therapy for promoting spoken language development in children with permanent hearing impairments: a Cochrane systematic review. 32nd World Congress of Audiology, Brisbane, 3-7 May 2014. [poster]

Brennan-Jones CG, Taljaard D, Safstrom S, Bennett R, Eikelboom RH. Sensitivity and specificity of self-reported hearing difficulty in adults over 60 years of age. 32nd World Congress of Audiology, Brisbane, 3-7 May 2014. [poster]

Brennan-Jones CG, Taljaard D, Safstrom S, Bennett R, Eikelboom RH. Sensitivity and specificity of self-reported hearing difficulty in adults over 60 years of age. *Frontiers 2014 – 9th Biennial Conference*, Sydney, 30 July – 1 August 2014. [poster]

Carmody N, Eikelboom RH. Are people with tinnitus satisfied with their interaction with the healthcare system? 8th International TRI Tinnitus Conference, Auckland, New Zealand, 10-13 March 2014.

Cassery P, Friedland P, Atlas M. Subtotal petrosectomy with blind sac closure in combination with cochlear implantation. Australian Society of Otolaryngology Head and Neck Surgery Annual Scientific Meeting (ASOHNS), Brisbane, 29 March – 1 April 2014.

Cassery P, Boeddinghaus R, Friedland P, Atlas M. Vascular malformations of the internal auditory mus: a case series and review of the literature. Australian Society of Otolaryngology Head and Neck Surgery Annual Scientific Meeting (ASOHNS), Brisbane, 29 March – 1 April 2014.

Cassery P, Wong G, Friedland P, Atlas M. An unusual cause of a destructive skull base lesion; important differential diagnoses. Australian Society of Otolaryngology Head and Neck Surgery Annual Scientific Meeting (ASOHNS), Brisbane, 29 March – 1 April 2014.

Eikelboom RH, Swanepoel D, Friedland PL, Taljaard D, Hunter M, Atlas MD. Prevalence and configuration of hearing loss in Baby Boomers. 32nd World Congress of Audiology, Brisbane, 3-7 May 2014.

Eikelboom RH, Swanepoel D, Friedland PL, Hunter M, Atlas MD. Prevalence and configuration of hearing loss in Baby Boomers. *Frontiers 2014 – 9th Biennial Conference*, Sydney, 30 July – 1 August 2014. [poster]

Eikelboom RH, Jayakody D, Swanepoel D, Atlas MD. Remote mapping for cochlear implant recipients - Development and validation of a remote cochlear implant telehealth service: objective and subjective outcomes. 32nd World Congress of Audiology, Brisbane, 3-7 May 2014.

Eikelboom RH, Jayakody D, Swanepoel D, Atlas MD. Remote mapping for cochlear implant recipients - Development and validation of a remote cochlear implant telehealth service: objective and subjective outcomes. *Frontiers 2014 – 9th Biennial Conference*, Sydney, 30 July – 1 August 2014. [poster]

Eikelboom RH, Swanepoel D. Capacity of the audiology workforce to provide telehealth services: results of an international survey. 32nd World Congress of Audiology, Brisbane, 3-7 May 2014.

Hinton-Bayre A, Friedland P. Let's get dizzy: a statistical method to evaluate individual changes in vertigo patient reported outcome measures. Australian Society of Otolaryngology Head and Neck Surgery Annual Scientific Meeting (ASOHNS), Brisbane, 29 March – 1 April 2014.

Hinton-Bayre A, Park J, Hee G. MR ED had a hoarse voice: a case of isolated laryngeal amyloidosis. Australian Society of Otolaryngology Head and Neck Surgery Annual Scientific Meeting (ASOHNS), Brisbane, 29 March – 1 April 2014.

Jayakody DMP. Pitch perception in pre-and postlingually deafened cochlear implant recipients. International music and cochlear implant symposium, Sydney, Australia, May 2014. Invited Speaker Presentation.

Jayakody DMP, Eikelboom RH, Swanepoel D, Atlas M. Remote mapping for cochlear implant recipients - Development and validation of a remote cochlear implant telehealth service: objective and subjective outcomes. The 13th International Conference on Cochlear

Implants and Other Implantable Auditory Technologies, Munich, Germany, June 2014. [poster]

Jayakody DMP, Looi V, Lin E, O'Beirne G. Identifying prosody expressed in New Zealand English- A study on cochlear implant and hearing aid users. The 13th International Conference on Cochlear Implants and Other Implantable Auditory Technologies, Munich, Germany, June 2014.

Jayakody DMP, Looi V, Lin E, O'Beirne G. A qualitative assessment of pitch-perception skills of cochlear implant and hearing aid users. The 13th International Conference on Cochlear Implants and Other Implantable Auditory Technologies, Munich, Germany, June 2014.

Jayakody DMP, Eikelboom RH, Taaljaard D, Atlas M. Quality-of-Life Outcomes (QOL) with the cochlear implant portfolio. The 13th International Conference on Cochlear Implants and Other Implantable Auditory Technologies, Munich, Germany, June 2014.

Jayakody DMP, Bester C, Robertson D, Atlas M, Hammond G. Cochlear implant users show an auditory attentional filter in an acoustic listening task. The 13th International Conference on Cochlear Implants and Other Implantable Auditory Technologies, Munich, Germany, June 2014. [Poster]

Park J, Friedland P. Osteonecrosis of the external auditory canal associated with bisphosphonate therapy: an increasing trend? Case series and literature review. Australian Society of Otolaryngology Head and Neck Surgery Annual Scientific Meeting (ASOHNS), Brisbane, 29 March – 1 April 2014.

Sharpe K, Friedland P. Mal De Barquermer syndrome - a unusual cure for an unusual condition. Australian Society of Otolaryngology Head and Neck Surgery Annual Scientific Meeting (ASOHNS), Brisbane, 29 March – 1 April 2014.

Sharpe K, Friedland P, Imani P. A rare entity described: the primary sinonasal ameloblastoma – A case report and review of the literature. Australian Society of Otolaryngology Head and Neck Surgery Annual Scientific Meeting (ASOHNS), Brisbane, 29 March – 1 April 2014.

Sharpe K, Wun L, Ling S, Friedland P, Hee G. Laryngeal adenoid cystic carcinoma – A sinister case of progressive dysphagia. Australian Society of Otolaryngology Head and Neck Surgery Annual Scientific Meeting (ASOHNS), Brisbane, 29 March – 1 April 2014.

Stroebel D, Swanepoel DW. Are perceptions and needs different for parents of children with auditory neuropathy spectrum disorder? 32nd World Congress of Audiology, Brisbane, 3-7 May 2014.

Swanepoel D, Myburgh H, Howe D, Mahomed F, Eikelboom RH. School-based hearing screening: automated mobile phone audiometer with integrated noise monitoring. 32nd World Congress of Audiology, Brisbane, 3-7 May 2014.

Swanepoel DW. mHealth for Audiology – Improving access in developing countries, in Special Symposium – Strategic and sustainable solutions for improving hearing health care globally. 32nd World Congress of Audiology, Brisbane, 3-7 May 2014. [Invited Special Symposium]

Taljaard D, Brennan-Jones CG, Bucks R, Olaithe M, Eikelboom RH, Atlas MD. Does hearing intervention improve domains of cognitive function? A systematic review. 32nd World Congress of Audiology, Brisbane, 3-7 May 2014.

Taljaard D, Brennan-Jones CG, Bucks R, Olaithe M, Eikelboom RH, Atlas MD. Does hearing intervention improve domains of cognitive function? A systematic review. *Frontiers 2014 – 9th Biennial Conference*, Sydney, 30 July – 1 August 2014. [poster]

Taljaard D. A critical enquiry into the knowledge, skills and attitudes of professionals dealing with tinnitus related distress. World Congress of Audiology, Brisbane, 3-7 May 2014.

Van der Merwe K, Taljaard D, Petersen L. The evaluation of a 2000Hz Auditory Steady State Response Newborn Hearing Screening Protocol. 32nd World Congress of Audiology, Brisbane, 3-7 May 2014.

Wang AYY, Shen Y, Teh BM, Redmond SL, Dilley RJ, Atlas MD, Marano RJ. Tympanic membrane repair using silk fibroin and acellular collagen scaffolds. Australian Society of Otolaryngology Head and Neck Surgery Annual Scientific Meeting (ASOHNS), Brisbane, 29 March – 1 April 2014.

Yau V, Friedland P, Hunter M, Eikelboom H. Vertigo and women - A significantly higher prevalence in a cohort of over 2000 Baby Boomers. Australian Society of Otolaryngology Head and Neck Surgery Annual Scientific Meeting (ASOHNS), Brisbane, 29 March – 1 April 2014.

Yau V, Friedland P, Hunter M, Eikelboom RH. Vertigo and women - A significantly higher prevalence in a cohort of over 2000 Baby Boomers. *Frontiers 2014 – 9th Biennial Conference*, Sydney, 30 July – 1 August 2014. [poster]

Community, Research and Training Grants Report

Lotterywest

Project Grant
Evaluation of the impact of the Cheers for Ears program
Safstrom S, Robertson WB, Atlas MD
2014-2015
\$74,000

Garnett Passe and Rodney Williams Memorial Foundation

Project Grant*
Harnessing stem cells for repair of the tympanic membrane
Dilley RJ, Atlas MD
2013-2015
\$294,194

Department of Communities

Social Enterprise Grant
Paediatric Cochlear Implant Program
Upson G, Robertson WB, Atlas MD
2013 – 2015
\$286,000

Australian Research Council

Linkage Project Grant*
Engineering a silk fibroin-based ear drum with optimum acoustic properties
Atlas MD, Marano RJ, Robertson WB, Wang X, Rajkhowa R
2011-2015
\$415,000

Raine Medical Research Foundation

Visiting Professor Award
Dilley RJ, Robertson WB, Atlas MD – awarded to Professor Magnus von Unge
2014-2015
\$14,950

National Health and Medical Research Council

Development Grant*
Novel silk devices for reconstructive surgery and repair of tympanic membrane perforations
Atlas MD, Dilley RJ, Wang X, Marano RJ
2013-2014
\$457,544

National Health and Medical Research Council

Infrastructure Funding
Dilley RJ, Robertson WB, Atlas MD
2014
\$47,370

Cochlear Foundation

Project Grant
The development and application of the IMPHAST assessment and training program
Taljaard D, Robertson WB, Atlas MD
2013-2014
\$50,000

Garnett Passe and Rodney Williams Memorial Foundation

Surgeon Scientist*
Atlas MD, Marano RJ, Eikelboom RH – awarded to Dr Bing Teh
2012-2014
\$240,000

Department of Health

Healthy Ear – Better Hearing, Better Listening Grant
Administered by Rural Health West
Robertson WB, Safstrom S, Atlas MD
2014 - 2015
\$239,381

XXXII World Congress of Audiology

Travel Scholarship
Brennan-Jones C
2014
US\$1,500

(* Competitive Grant)

Board of Trustees



Mr George Jones, AM, CitWA

BBus, FCIS, FAICD

Mr Jones has more than 35 years' experience in the mining, banking and finance industries and has been a director of a number of private and publicly listed companies. He was instrumental in overseeing the growth of Portman Mining Limited over the course of a decade, taking it from a start-up iron ore producer in the early 1990s to a six million tonnes per annum producer of direct shipping hematite ore with a market capitalisation of over \$600 million in 2005. Mr Jones has a Bachelor of Business degree from Curtin University in Western Australia.



Mr John Schaffer – ESIA Board Chairman

BCom(Hons), FCPA, FAICD

Mr Schaffer joined Schaffer Corporation Limited in 1972, was appointed Operations Manager in 1974, Managing Director in 1987 and has held the position of Chairman and Managing Director since 1988. He has had extensive experience over the past 40 years in managing both private and publicly listed companies with operations spanning the globe in industries ranging from manufacturing and equity investment to property and development.



Winthrop Professor Marcus Atlas – ESIA Director

MB BS, FRACS

Professor Atlas holds the Foundation Chair in Otolaryngology at The University of Western Australia and has held the positions of Head of the Ear Sciences Centre at UWA since 2000 and Director of the Ear Science Institute Australia since 2001. He is the current Chairman of the International Federation of Otolaryngology Advisory Committee in Otolaryngology and Neurotology and was invited to join the Court of Examiners, Royal Australian College of Surgeons, in 2006. He has represented Australia at numerous international clinical and basic research scientific meetings and international advisory boards and has delivered over 100 invited lectures.

Board Members

1. Mr John Schaffer – Board Chairman BCom(Hons), FCPA, FAICD

Following his long-term involvement with the Ear Science Institute Australia (ESIA), in addition to being a Trustee, Mr Schaffer accepted the position of ESIA Board Chairman in July 2013. Mr Schaffer joined Schaffer Corporation Limited in 1972, was appointed Operations Manager in 1974, Managing Director in 1987 and has held the position of Chairman and Managing Director since 1988. Mr Schaffer has had extensive experience over the past 40 years in managing both private and publicly listed companies with operations spanning the globe in industries ranging from manufacturing and equity investment to property and development.

Mr Schaffer's close involvement and commitment to ESIA reflects his personal belief that the opportunity to give something back to the community is also about rolling your sleeves up and being instrumental in the thinking and planning that underpins the doing. He sees his role as not only Chairing this very important Not-for-Profit organization, but also one of mentoring the senior staff, to help us better achieve our goals.

John is also involved in a range of other Not-for-Profit organizations, Chairing a Private School Foundation, being a member of another schools Endowment Fund, a Trustee of a Charitable Trust, set up to look after people in need, and assists where possible in a range of other areas.

2. Winthrop Professor Marcus Atlas – ESIA Director MB BS, FRACS

Professor Atlas is a surgeon scientist specialising in ear and hearing disorders, combining applied clinical and scientific research. He holds the Foundation Chair in Otolaryngology at The University of Western Australia and has held the positions of Head of the Ear Sciences Centre at UWA since 2000 and Director of ESIA since 2001. Under his directorship, ESIA and the ESC have created

three major research groups involved in clinical research, computer and information science and molecular and cellular otolaryngology.

Professor Atlas is a key member of the team that has developed a telemedicine system for otology, which has been placed in a number of sites around Australia and is now undergoing international commercialisation. He is presently a principal investigator in two major multicentre trials utilising cochlear implants and implantable hearing devices, including the round window application of the Vibrant Soundbridge for mixed hearing loss and the evaluation of the surgical suitability of a new cochlear implant (in conjunction with The HEARing CRC). His other current scientific research concentrates on the field of molecular and cellular tympanic membrane research working on a bio-engineered tympanic membrane.

Professor Atlas graduated in medicine in 1982 and received the Fellowship of the Royal Australian College of Surgeons in 1989. He received the Athelstan and Amy Saw Scholarship from The University of Western Australia (1990-1992) to undertake a fellowship in Cambridge, UK, and Pittsburgh, USA. He was invited to join St Vincent's Hospital and Clinic in 1992 and was involved in collaborative research programs with the Garvan Institute of Medical Research.

Professor Atlas has received international recognition in the areas of ear and skull base surgery. He was invited to join the Court of Examiners, Royal Australian College of Surgeons, in 2006. His innovative surgical education book and three-volume DVD are used throughout the world to teach ear and skull base surgery, and his surgical dissection courses have attracted hundreds of international surgeons over more than 10 years. The clinical and research fellowship program at ESIA has a two-year waiting list. He has taken leadership roles in research as Director of the Ear Sciences Centre at UWA and as primary supervisor of

PhD candidates and senior author of publications.

Professor Atlas was the Editor of the Australian Journal of Otolaryngology (2001-2008) and has restructured the journal to create a large international readership, especially in the USA, in addition to establishing agreements with the leading otolaryngology journal, Otolaryngology Head and Neck Surgery. He is on the editorial boards of both Australian and international otolaryngology journals.

3. Mr Graeme Jolley BCom, GradDipBus, MTax, FCA

Mr Jolley is a founding board member of ESIA and held the role of Chairman from 2007 to June 2013.

A chartered accountant with graduate and postgraduate qualifications in commerce, business and taxation, Mr Jolley is a leading taxation practitioner specialising in advice, objections and appeals and negotiations in all Federal and State taxation matters. He holds a Master of Taxation and is a State Councillor and a past State Chairman of the Taxation Institute of Australia. He is also a Principal of Crowe Horwath.

Mr Jolley works to provide an open and independent environment for the ESIA Board to carry out its governance functions. He strongly believes that ESIA is making a genuine difference to the health of Western Australians. He describes it as an honour to have the opportunity to assist Professor Atlas in his vision and dedication to create a world-renowned ear and hearing institute in Western Australia.

Mr Jolley says he is regularly struck by the support the organisation has received, the dedication of ESIA's staff and the assistance ESIA receives from those in the wider community. He describes his role with ESIA as both a unique and rewarding experience, and looks forward to helping the organisation continue to grow and achieve its potential.

4. Professor Lyn Beazley AO FTSE

After graduating from Oxford and Edinburgh Universities, Lyn built an internationally renowned research team in Neuroscience that focused on recovery from brain damage, much of her investigations undertaken as Winthrop Professor at The University of Western Australia. Currently Lyn is Sir Walter Murdoch Distinguished Professor of Science at Murdoch University.

Lyn was honoured to be Chief Scientist of Western Australia from 2006 to 2013, advising the Western Australian Government on science, innovation and technology as well as acting as an Ambassador for science locally, nationally and internationally. With extensive experience serving on advisory bodies, Lyn currently serves several boards including the Federal Government's Bionic Vision Australia and the State Government of Western Australia's Technology and Industry Advisory Council. Lyn was a Trustee of the Western Australian Museum from 1999-2006 and currently is Patron of the Friends of the Museum. Recently Lyn joined the Board of the Western Australian Art Gallery Foundation.

In 2009 Lyn was awarded Officer of the Order of Australia and elected a Fellow of the Australian Academy of Technological Sciences and Engineering later that year. In 2011, she was inducted into the inaugural Western Australian Women's Hall of Fame, followed by being elected a Fellow of the Australian College of Educators and a Companion of Engineers Australia. Lyn has worked to promote Science, Technology, Engineering and Mathematics to the community, especially to young people, and in 2012 Lyn was thrilled to become the second recipient of the Governor's Award for Giving, in recognition of her enthusiastic philanthropy. This year Lyn was accorded the honour of being inducted into

Board Members

the Western Australian Science Hall of Fame and in November was thrilled and honoured to be announced as the recipient of the Western Australian section of the Australian of the Year Awards for 2015.

5. Mr Peter Abery

BSc(Eng), MSc(Eng), MBA, FAICD, MIET, ISMP Harvard

Mr Abery brings to the ESIA Board a vast array of experience in senior management roles. A graduate of Harvard Business School's International Senior Managers Program, he joined the ESIA Board in 2008 after previously working with Professor Atlas on the Institute's strategic development.

Mr Abery's senior management roles have included chief executive officer and managing director of such companies as HPM Industries, Crown Castle UK and Australia, Vodafone Network and QPSX Communications. He held until recently the position of chairman and non-executive director of the listed companies Kresta Holdings and Nomad Building Solutions. His current company directorships include the West Australia Institute of Sport (WAIS) and The Fathering Project.

Mr Abery holds both a Bachelor and Master degree in electrical engineering as well as a Master of Business Administration. He is a Fellow of the Australian Institute of Company Directors and a member of the Institute of Engineering and Technology.

Mr Abery believes that the prevalence of hearing loss makes the work of ESIA in research, diagnostics and care particularly important and sees it as having a significant contribution to society. He believes that as the Institute grows, its research activities expand, and the new building develops, it will become a more significant not-for-profit organisation. He hopes to bring his business skills and experience to assist the board, the director, the management team and the staff to achieve the goals set for the future of ESIA.

6. Professor Michael Quinlan

LLD, MB BS, MD, FRACP

Professor Quinlan is Professor of Medicine at the University of Notre Dame Australia and Clinical Professor of Medicine at The University of Western Australia. His considerable medical experience and track record of service to the goal of better health care for all Western Australians are valuable additions to the ESIA Board, and he believes strongly in fostering and encouraging collaboration amongst researchers.

After completing his undergraduate training at The Universities of Adelaide and Western Australia, Professor Quinlan undertook postgraduate training at Royal Perth Hospital and Princess Margaret Hospital, becoming a Member and then Fellow of the Royal Australian College of Physicians. He was also awarded the research degree of Doctor of Medicine by The University of Western Australia before completing his post-doctoral studies at the Johns Hopkins University in Baltimore, Maryland, USA.

On his return to Perth, Professor Quinlan was appointed as a physician at Sir Charles Gairdner Hospital and Royal Perth Hospital and entered private practice as a consultant physician at St John of God Hospital, Subiaco, where he became Director of the Medical Teaching Unit. He is currently an Emeritus Consultant Physician at Sir Charles Gairdner Hospital.

Professor Quinlan was a member of the Planning Board of the University of Notre Dame Australia, and an inaugural Trustee and Governor. In 1999 he was appointed the Foundation Dean of the College of Health and Professor of Medicine. Professor Quinlan was appointed Deputy Chancellor in 2006 and Chancellor in July 2008.

Professor Quinlan is a Trustee of St John of God Australia and immediate past Chairman of the St John of God Foundation. He was a former member and Chairman

of the St John of God Health Care National Governing Board; an inaugural director of the Sisters of Charity National Governing Board; a patron of the Bendat Family Comprehensive Cancer Centre Appeal; a director of the Feilman Foundation; a director of the Child Health Research Foundation of WA; and was formerly a member of the Raine Medical Research Committee at The University of Western Australia and a director of the WA Biomedical Research Institute. He was awarded the Colledge Medal of the Royal Australasian College of Physicians in 1998, the Federation Medal in 2003 and the Hippocratic Bust by the Australian Medical Association (WA) in 2006.

His role with ESIA has great synergy with his other positions, and Professor Quinlan believes the proximity of ESIA to St John of God Hospital, Subiaco, lends itself to a strong relationship between the organisations. He has great faith in the research team led by Professor Atlas and believes that collaboration between WA researchers should be fostered and encouraged.

7. Ms Michelle Prater

BBus, ASA, ACIS

After many years working in the retail, hospitality and fashion industries both interstate and overseas, Ms Prater returned to Perth and graduated from Edith Cowan University with a Bachelor of Business and Accounting Major. She went on to work as an auditor in a public practice before accepting the role of Assistant Company Secretary for the Automotive Holdings Group (AHG). Over the ten years Ms Prater worked for AHG her role changed to suit various requirements within the company. These included property negotiation, retail sales and service, the marketing development of the AHG brand, and culminated in her role as a director of the then private company AHG. Ms Prater has been the Executive Chairman of the property investment and management

business, Automotive Properties Pty Ltd, since the public listing of AHG in 2005.

Ms Prater is actively involved in the schools attended by her children, St Hilda's and Christ Church Grammar, where she has served on numerous committees over many years. Ms Prater has also been involved on committees with FBA and ACID.

Ms Prater's interest with ESIA began with a family member who received significant personal assistance from the Institute. Ms Prater accepted a position on the Cheers for Ears Steering Committee, which led to a greater involvement with ESIA.

8. Mr Timothy Cooper

BCom

Mr Cooper graduated from The University of Western Australia with a Bachelor of Commerce degree in marketing and financial accounting. He originally pursued a career in marketing before he turned to accounting, joining professional services firm Deloitte and working primarily in the mining and oil & gas sectors. Mr Cooper now leads Finance Support for LNG and Major Projects at the multi-national oil & gas company Apache Energy, where he has also been involved with their Community Outreach Programs.

An active contributor to the community, Mr Cooper has been a member of the Wembley Baseball Club for 20 years, holding various positions including President, and is a Life Member of the Wembley Athletic Club. Other roles include Director of Baseball WA Ltd and more recently the Sports Advisory Committee for Healthway, the Western Australian Health Promotion Foundation.

Mr Cooper has significant personal experience with ear and hearing health, he himself and a family member having suffered from the effects of hearing loss. His involvement with ESIA commenced in 2012 as chair of the

Board Members

Gift of Hearing Committee for the 2012 Appeal, and as a member of the Fundraising Committee. He is currently Chair of ESIA's Fundraising Committee.

9. Mr Peter Millington
BSc(Hons), M.Env.St, M.Sc, FAICD

Mr Millington graduated from Flinders University with a Biological Science Degree and undertook an honours degree in Marine Science at James Cook University. He obtained a Master's Degree in Environmental studies at Adelaide University before being awarded an overseas study scholarship to undertake a Master's Degree in Marine Science at the University of British Columbia. He became a Fellow of the Australian Institute of Company Directors in 2002.

Mr Millington joined the Australian Public Service in 1974 where he was involved in policy development and monitoring Commonwealth fisheries and foreign fisheries operating in the Australian fishing zone. He subsequently joined the WA Public Service in 1986 and was responsible for policy development and compliance for Western Australian fisheries. Mr Millington was Chief Executive Office at the Department of Fisheries between 2006

and 2008. He brings his extensive experience of policy development and management to ESIA.

Mr Millington is currently the CEO of the Chemistry Centre Western Australia, the state government's analytical laboratory providing services in emergency response, forensic science, environmental chemical analysis and public health and safety. Mr Millington has always been actively involved in scientific research and has recently applied his knowledge regarding policy outcomes to ESIA on its Research Committee.

Mr Millington's deep understanding of management and policy decisions is invaluable to ESIA and he is particularly interested in the research centre within the institute. Mr Millington joined the ESIA Board of Directors in 2014 and looks forward to making a valuable contribution.

Financial Report*

ESIA Statement by Board

The Board has determined that the Institute is not a reporting entity and that this special purpose financial report should be prepared in accordance with the accounting policies outlined in Note 1 to the financial statements.

In the opinion of the Board:

- a) the accompanying financial report of Ear Science Institute Australia Incorporated is drawn up so as to give a true and fair view of the results of the Institute for the year ended 30 June 2014 and the state of affairs of the Institute as at that date;
- b) at the date of this statement there are reasonable grounds to believe that the Institute will be able to pay its debts as and when they fall due.

This statement is signed for and on behalf of the Board by:



Board Chairman



Institute Director

Dated this 11th day of September 2014

*For a comprehensive review of ESIA's financial position, please email: enquiries@ears-science.org.au



Financial Report for the year ended 30 June 2014

Income statement

	2014 \$	2013 \$
Revenue and other income	8,408,204	6,493,622
Less:		
Employee benefits	4,514,165	3,612,725
Depreciation	1,008,126	934,167
Rent and variable outgoings	1,025,258	814,189
Interest and finance costs	447,039	618,528
Operating Expenses	623,294	463,020
Total expenses	7,617,882	6,442,629
Net Surplus for the year	790,322	50,993

Financial Report for the year ended 30 June 2014

Balance Sheet

	2014 \$	2013 \$
Assets		
Current Assets		
Cash and cash equivalents	2,253,875	1,782,242
Trade and other receivables	915,171	1,379,038
Inventories	374,258	470,316
Other	100,000	100,000
Total Current Assets	3,643,304	3,731,596
Non-Current Assets		
Building, plant and equipment	16,327,855	16,813,220
Investments	606,811	606,811
Other	1,129,773	1,404,972
Total Non-Current Assets	18,064,439	18,825,003
Total Assets	21,707,743	22,556,599
Current Liabilities		
Research and other grants in advance	468,713	186,063
Creditors and accruals	1,379,067	1,535,133
Deferred income	456,742	456,465
Provision for annual leave	205,953	170,708
Total Current Liabilities	2,510,475	2,348,369
Non - Current Liabilities		
Interest bearing loans	7,897,672	9,408,764
Provision for long service leave	134,208	119,869
Deferred income	1,880,523	2,185,054
Total Non Current Liabilities	9,912,403	11,713,687
Total Liabilities	12,422,878	14,062,056
Net Assets	9,284,865	8,494,543

How You Can Help

Hearing is a primary human sense and hearing loss is not a mere inconvenience, it is a major chronic health problem. Unfortunately, in Australia, one in six people is affected by hearing loss. As an independent not-for-profit organisation and a registered charity the Ear Science Institute Australia relies upon support from the community to continue its research into the causes of and treatments for ear, hearing and balance disorders. As you read through this annual report you will realise the significance of the research, education, preventative and community work being undertaken by the Institute to enhance the lives of people affected by hearing loss and associated disorders. If you would like to help us break the silence for these people as we continue our important work, there are a number of ways in which you can help.

DONATIONS

Donations can be made in several ways:

- By cheque, made payable to Ear Science Institute Australia Inc
- By direct bank transfer; please contact us on +61 (8) 6380 4900
- By credit card, via the attached form in this report
- Online via the "Donate Now" button on our website www.earscience.org.au

All donations over \$2.00 are tax deductible and a receipt will be issued.

BEQUESTS

A bequest is a gift of hope that will be heard by future generations. Making a bequest is one of the most positive ways of affirming the future. Please contact us to obtain a copy of our bequest brochure or to have a confidential discussion about leaving a bequest in your Will.

CORPORATE PARTNERSHIPS

ESIA receives limited government funding and greatly values the support and generosity of the business community within Western Australia. Our Events and Fundraising Manager would be delighted to meet with you to explore the possibilities of a mutually beneficial partnership between your company and ESIA.

VOLUNTEERING

Become a volunteer at ESIA and help make a difference in people's lives with your unique skills and expertise. There are many different areas in which volunteer assistance is required; please contact us to find out about the current volunteer opportunities.

For more information on these and other ways you can help ESIA to break the silence, please visit our website www.earscience.org.au, contact our Events and Fundraising Manager on +61 (8) 6380 4900 or email enquiries@earscience.org.au



DONATION DETAILS

Name

Postal Address

Post Code

Organisation (if applicable)

Phone Number

Email Address

Payment made by:

Visa MasterCard

Direct Bank Deposit Cheque (Please Tick)

\$1,000 \$5,000

\$10,000 Other \$.....

Credit Card Number

Expiry Date

Name on Card

Card Holder's Signature

Direct Deposits:

(Please quote your name for receipting purposes)

ESIA Fundraising Account
BSB: 036-304 Account 268465

All cheques payable to:

Ear Science Institute Australia (inc),
Suite 1, 1 Salvado Road, Subiaco WA 6008

Phone: +61 (8) 6380 4900 Fax: +61 (8) 6380 4901

ESIA is an endorsed deductible gift recipient.

Tax deductible receipts will be issued.



Acknowledgements



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Email: enquiries@earscience.org.au
Web: www.earscience.org.au

ESIA is a registered charity and an endorsed Deductible Gift Recipient

All donations over \$2 are tax deductible

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The Ear Science Institute Australia would like to thank the following individuals, companies, organisations and foundations for their support and assistance throughout the year:

Australian Government Department of Health and Ageing
Australian Research Council
Automotive Holdings Group Ltd
Avant
BGC Construction
Charlesworth Ballet Institute
Cochlear Ltd
Deakin University
Eastwick Events
Gatecrasher
Government of Western Australia Department of Health
Kudos Creative
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School of Surgery, The University of Western Australia
Sir Charles Gairdner Hospital
Sonic Innovations
Sonova
St John of God Health Care
St Joseph's Catholic Church, Subiaco
The Garnett Passe and Rodney Williams Memorial Foundation
The MoNIE Agency
The Tony & Gwenyth Lennon Family Charitable Foundation
The University of Notre Dame Australia
The University of Western Australia
West Australian Symphony Orchestra
Westpac Banking Corporation
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Wrays
Our Volunteers