







Contents

Director’s Report 4

Chairman’s Report 6

Danny Clarke’s story 7

Building Report 8

Research Report 10

Lions Hearing Clinic Report 14

Publications and Grants 16

ESIA Financial Report 18

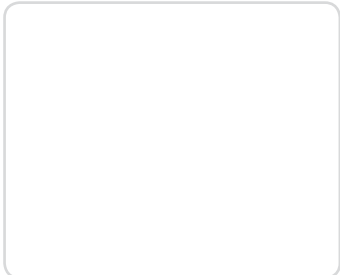
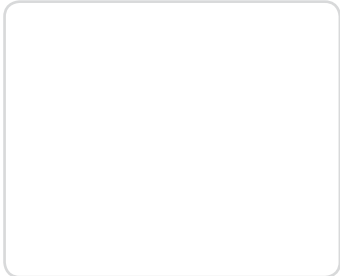
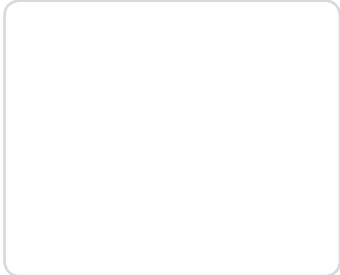
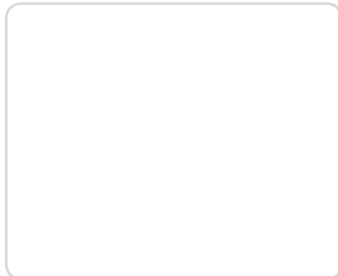
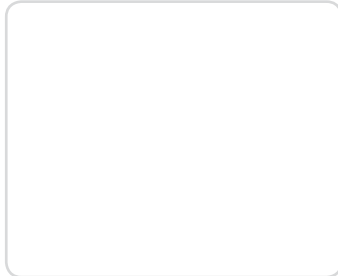
Lions Hearing Foundation Report 22

Lions Hearing Foundation Financial Report..... 24

Corporate Directory 26

Organisational Structure 26

Acknowledgements and Collaborations 27





Director's Report

As we reach the important milestone of our first five years of operation, it's abundantly clear that the Ear Science Institute Australia (ESIA) has made enormous progress in its research into and treatment of ear, hearing and balance disorders.

There is now a growing international realisation that hearing loss is not a mere individual inconvenience, but a health crisis that has measurable negative impacts on economic production, social and health services and quality of life.

Bearing this in mind, our international research vision has grown and expanded in exciting directions that focus even more keenly on bringing real solutions and relief to sufferers worldwide. A number of our groundbreaking medical research projects are already making a difference to patients, and the ESIA remains committed to research that is applicable and relevant. In this respect, our unique model of research and clinical services places us in a leading position as we move forward with our work that harnesses the combined expertise, skill and insight of dedicated surgeons, researchers, hearing clinicians, technologists, audiologists and students.

One of the most obvious signs of our expanded vision is the change of name. Established as the Lions Ear and Hearing Institute, we retain our strong links to the Lions Hearing Foundation, and we move forward as the Ear Science Institute Australia. This next step reflects our extended direction for the future and places us within the realms of international medical research. ESIA incorporates the highly successful LEHI audiology services, now known as the Lions Hearing Clinics.

The cornerstone of our vision is our proposed new building, and an exciting capital fundraising campaign has been set in motion this year. ESIA researchers and clinicians need greater collaboration in order to pursue the research that will make a real difference.

Housing the expertise, innovation and energy under one roof in a state of the art facility will allow for greater freedom to meet our broadened objectives. This multi-purpose research and patient clinic centre will bring a new era in applied research to the local, national and international community. At the same time, we will expand our cell based research in a new collaborative State-wide research building at QEII Medical Centre, with other major research groups in Perth.

We are mindful of the continued support we receive from the Lions Hearing Foundation and thank the many Lions Club members throughout Western Australia for their generous financial commitment in support of the building project.

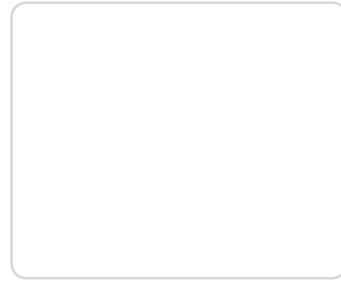
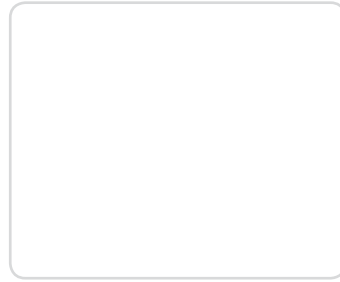
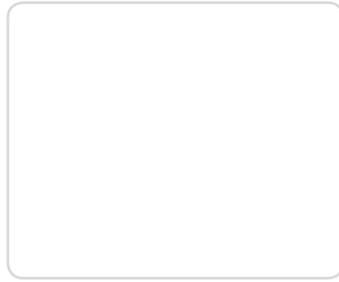
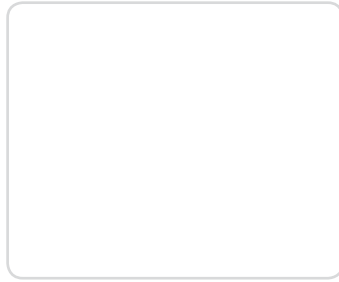
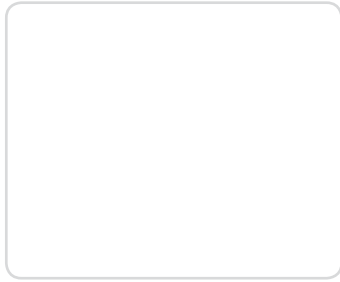
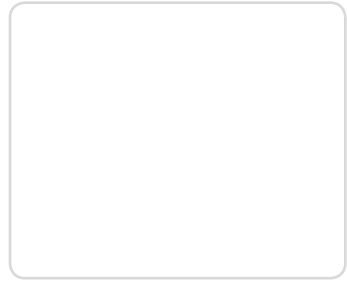
With a site now secured and planning in place, the ESIA fundraising team has come together to progress this major project. We have been heartened to welcome the dedication and commitment of some of Australia's key business and community leaders to the team. It's a measure of the people themselves and their understanding of the extent of hearing loss problems that they are willing to stand up and become advocates for this worthy cause.

The capital campaign is gaining momentum and we are confident of achieving our objective to commence building during 2007.

Despite working in fragmented locations around metropolitan Perth, the ESIA research team has achieved outstanding results in the past year – results which are being translated into practical patient applications and even commercial operations. The telemedicine project has been trialled and tested in a number of remote Western Australian communities, with consideration now being

*Highlighted pic:
Professor Marcus Atlas, ESIA Director*





given to full commercialisation. The computer and information science group incorporates telemedicine and a new research direction called computer-aided diagnosis. This active group has devised computer systems that will enable doctors and other health service providers to diagnose ear conditions accurately utilising a specific software program.

Exciting advancements have been made by our tissue engineering research group. The group has developed techniques to grow different cells of the ear and characterise and modify the process. The scaffolds required for cell growth have been developed and animal models are being trialled. We anticipate international collaboration that will begin the development of hair cell regeneration to potentially restore the hearing of millions of people worldwide with the common problem of nerve deafness.

ESIA activities continue to attract international scientists and doctors to Australia. Raine visiting Professor David Baguley from Cambridge, United Kingdom, will spend 3 months at the Institute in 2007, working with audiologists and scientists in his field of audiology and tinnitus research. Clinical fellows from New Zealand and South East Asia have worked with the ESIA surgical team during 2006. Senior Lecturer in Otolaryngology, Gunesh Rajan, from Switzerland, joined ESIA in 2006 after completing a fellowship with our surgical team in the previous year.

No achievements happen in isolation, and it is my pleasure to acknowledge the contribution and wisdom of the ESIA Executive Board, our Council of Governors, and of course the entire management team.

My general thanks are extended to the entire ESIA team for their ongoing support and dedication, their invaluable advice in specialist areas, their appreciation of the enormity of our responsibilities, and most important, for their understanding of the great potential and

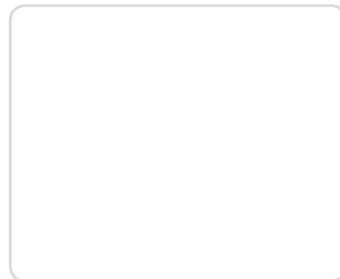
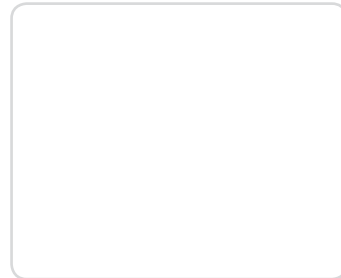
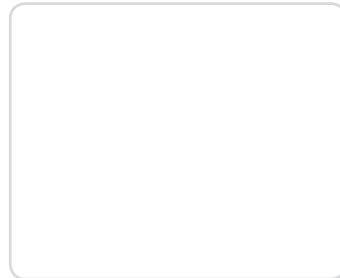
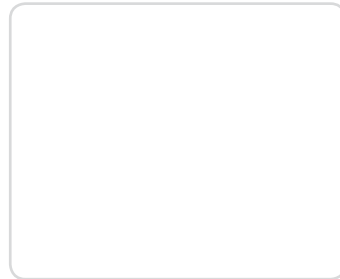
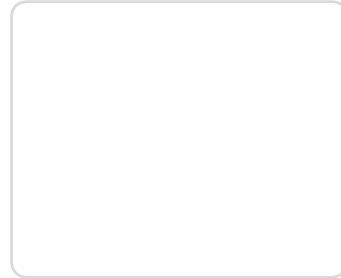
possibilities of our work. These are all signs of a great team working towards something greater than themselves.

The year ahead will be a busy but exciting one. Our fundraising will be progressed while our focus remains on key research projects and application of results to meaningful clinical trials. Our researchers will continue to contribute to national and international peer reviewed research publications, and will work to secure grants to enable further research projects.

The Ear Science Institute Australia is indeed fortunate to move ahead with both an expert team and a committed group of supporters, and we look forward to exciting developments over the coming year.

Marcus Atlas

Professor Marcus Atlas
Director



Highlighted pic:
Gemma Ivey, ESIA Audiologist





Chairman's Report

A 2006 Australian research report indicates that hearing loss is the second major chronic health problem with a financial cost to the community of \$11.75 billion or 1.4% of GDP. This cost is in addition to the severe social, educational and career problems experienced by the sufferers.

The Ear Science Institute Australia (ESIA) has the vision to bring hope and relief to those who suffer ear, hearing and balance disorders. During its first 5 years it has achieved international recognition as it has grown its research and clinical activities reaching some significant milestones. To reflect the international focus of the Institute, its name was formally changed to ESIA. Our long standing connection with the Lions Hearing Foundation however is retained though our Lions Hearing Clinics.

Key research achievements during this year include attracting scientists with world-class reputations, developing a tissue engineering research group, involvement in national and international collaborative projects, translation of research findings into clinical practice and implementation of diagnostic products into national sites, with the aim to commercialise them. These are the outcomes of a relatively unique situation in the world where we have assembled a team of scientists and clinicians from various disciplines, combining skills to tackle research and clinical challenges in the diagnosis and management of ear disorders.

Key research areas in the next five years are:

- A focus on the major cause of hearing loss: damage and loss of small hair cells in the ear. This research aims to protect against hearing loss and restore hearing when damaged. This project is based on our tissue engineering experience in the tympanic membrane and middle ear.
- Development of sophisticated computer-based tools for primary care to improve their diagnosis and management of disease.
- An epidemiological study with the Joondalup Family Health Study to understand the environmental and genetic linkages to common ear conditions.

On the clinical and service side, the number of well managed audiological clinics has risen to 5 with 10,000 patient contacts whilst the expert surgical team continues to use increasingly sophisticated cochlear implants to restore hearing.

The ESIA Executive Board is very mindful of continuing to encourage and foster close working relationships between our dedicated scientists, clinicians and educators. An immediate challenge is to gather many of these people together under one roof. This will be achieved with the construction of the new ESIA building in Subiaco. Scientists and clinicians will have a far better interface with each other and with patients than is possible in our current situation of being spread over many buildings. High speed, secure network connections to all the Lions Hearing Clinics and ESIA laboratories off-site will enable disperate collection of data, and computer based person-to-person voice- and video-communication.

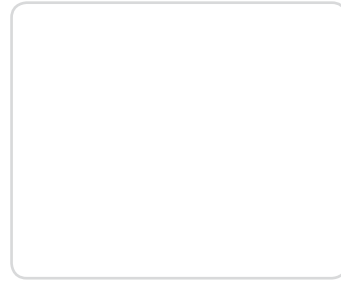
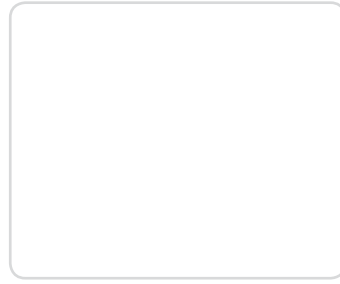
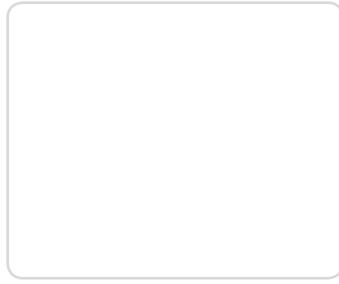
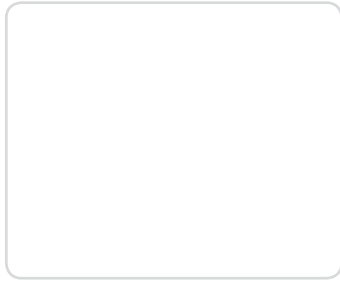
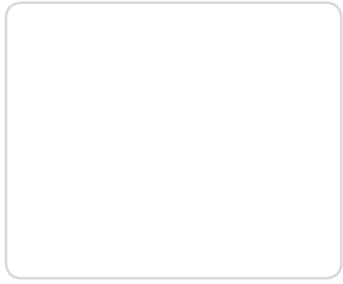
The new building will enable expansion of the size and scope of the scientific and clinical research teams, allowing critical mass to be reached. This in turn will enhance the ability to attract competitive research funding. At the same time, ESIA's proceeds from clinical activities will continue to support these growing research activities and salaries of key researchers

The future will be challenging and groundbreaking. With the continued support of Board Members, Management and Staff the ESIA has the potential to make enormous and life – changing impact on the pressing global issue of ear disorders and associated hearing loss.

Professor Val Alder
ESIA Chairperson

Highlighted pic:
Professor Val Alder, ESIA Chairperson





Danny's Landmark WA Surgery

Danny Clarke is an inspiration. Earlier this year, at the age of 25, he became the first person in Western Australia to undergo surgery for cochlear implants in both ears at the same time.

Danny's story is a remarkable one. He lost the hearing in his right ear at the age of 11 after falling in a swimming pool accident. In a twist of fate 14 years later, Danny became totally deaf following an unprovoked nightclub attack which left him with a fractured skull and damage to the cochlea in his left ear.

Until then, Danny had worked as a search and rescue helicopter crewman. Years of training saw him involved in dangerous search and rescue missions over land and sea. Communication played a large part in a constant verbal exchange with the pilot.

"I worked very hard and was in a position to help and save others. So for that to be taken away in one punch was devastating," he says.

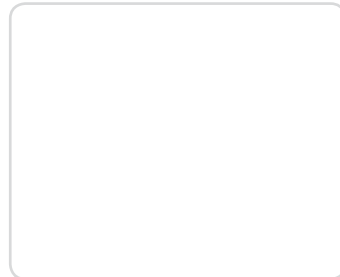
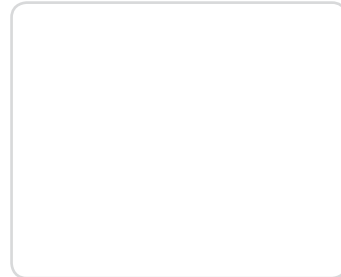
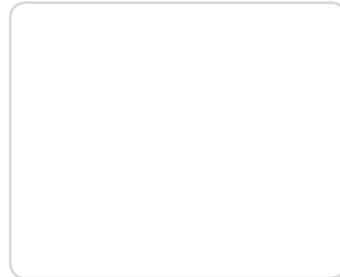
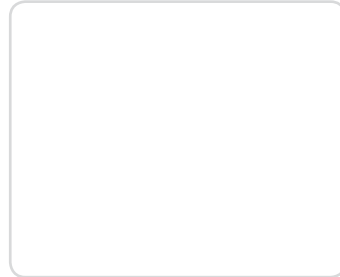
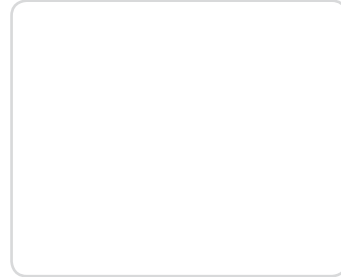
But Danny remained positive and optimistic, and his cousin Natalie Starkey helped him communicate through lip reading and sign language. "His sense of humour has always shone through and he has taken it all in his stride" she says.

Then Danny's family, friends and colleagues from Canadian Helicopter Corporation raised more than \$25,000 for one cochlear implant, and the Ear Science Institute Australia (ESIA) donated the second. Ear surgeon and ESIA Director Professor Marcus Atlas performed the rare three-hour operation at St John of God Hospital in Subiaco.

Danny's progress has been excellent and his bionic sound system is connecting him back to the world of noise. He has the ability to distinguish sounds, to distinguish between voices, to use a mobile phone, and he can now take part in conversations with others speaking at normal levels.

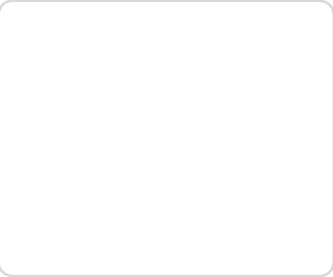
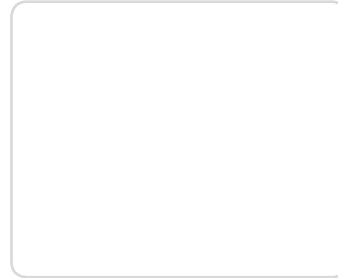
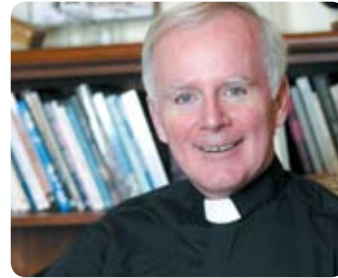
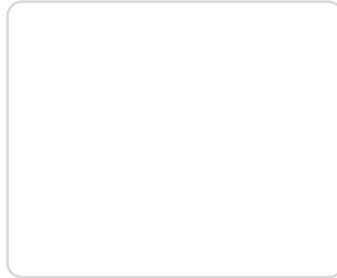
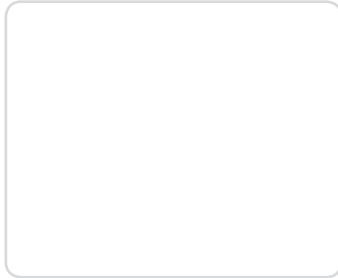
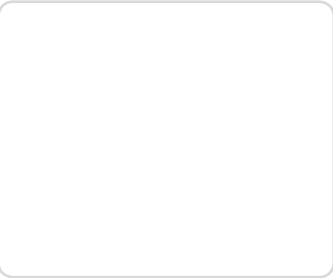
Following this landmark surgery, Danny's personal strength shines through as he takes on new challenges, including becoming an ambassador for the Ear Science Institute Australia.

The implants also provide hope for him to achieve his ultimate ambition: to return to his job. "I'm very positive about this possibility!" says Danny.



Highlighted pic:
Danny Clarke, double cochlear ear transplant recipient





Building Report

The creation of a multi-purpose medical and patient service hub is now well underway with approval of a long term lease received from the Catholic Archdiocese of Perth.

Fundraising has commenced with a target of \$15m required to complete the vision of a world class research facility that will bring together specialist researchers, audiologists and clinicians to create an interaction of people and ideas to pursue innovation and groundbreaking research in the field of ear and hearing disorders.

The Director of the Ear Science Institute Australia, Professor Marcus Atlas, has shared a vision of a world class institute that collaborates with many internationally renowned medical research centres.

The proposed building (as illustrated here) is designed to be in harmony with the architecture of a heritage listed church and presbytery, and to be complementary to the adjacent St John of

God Hospital, Subiaco. The building will initially house the Institute on the top floor and the remainder of the building will incorporate medical clinics, a hearing clinic and a hearing discovery centre.

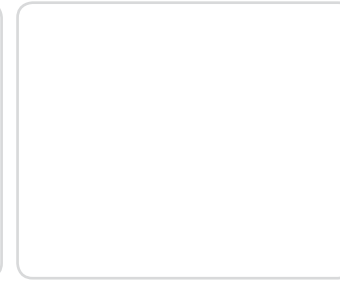
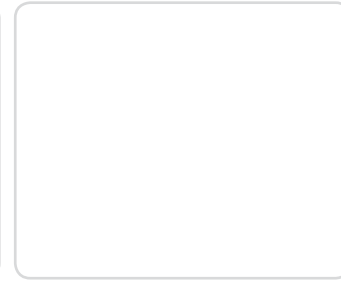
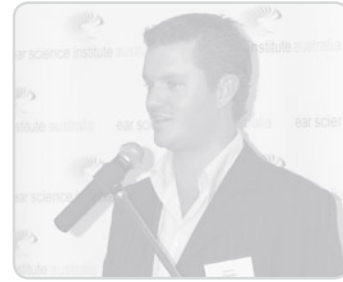
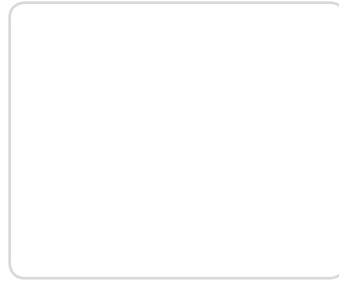
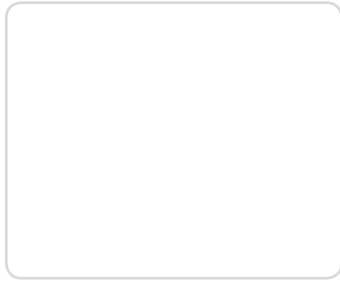
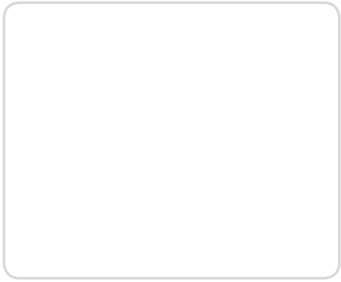
Building is planned to commence in August/September 2007 with completion expected in the first half of 2009.

Among the innovative plans for the building is the inclusion of state of the art communications to allow researchers and medical specialists to communicate internationally. The building will also incorporate the latest technology to store and retrieve patient and medical research information.

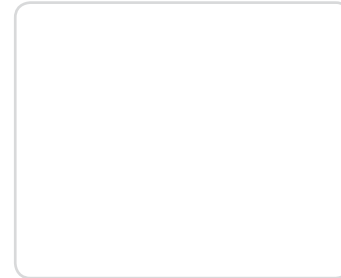
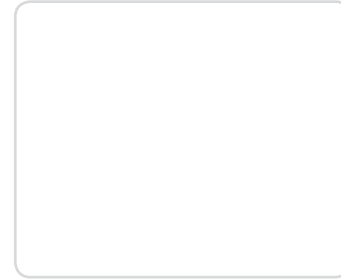
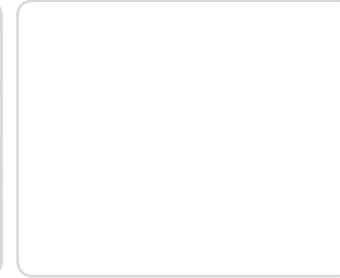


*Highlighted pic:
Father Joseph Walsh,
maintaining heritage values*



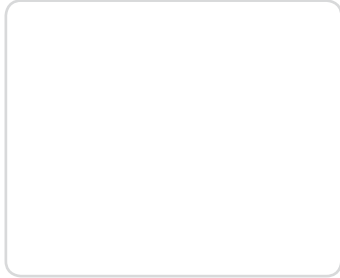
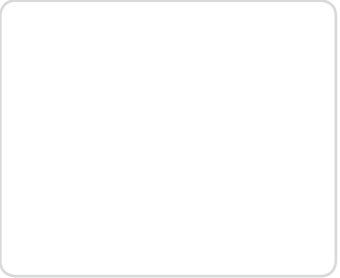
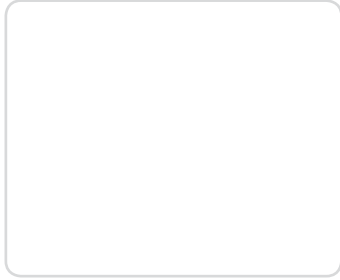
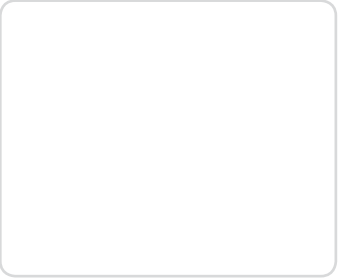
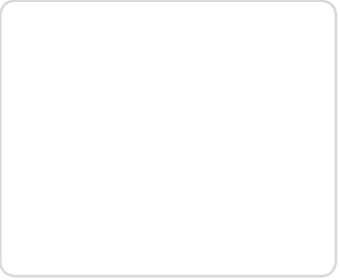
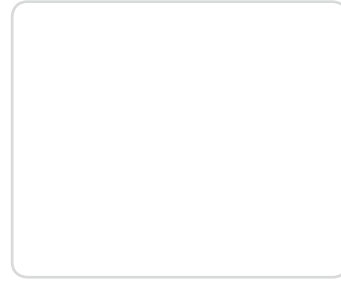
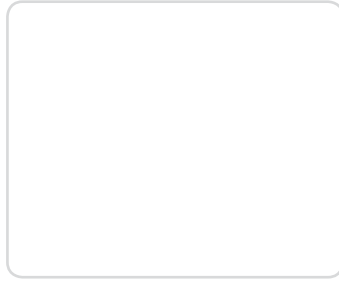
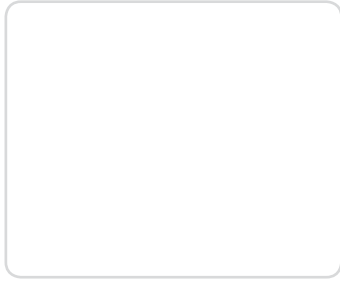


Design complementary to the environment



*Highlighted pic:
Professor Marcus Atlas,
advanced surgical techniques*





Research Report

The Ear Science Institute’s research activity has stepped up a level in the past year. A number of key researchers have joined the team, a number of research projects are reaching significant milestones, and the number of collaborators is growing.

The results of our research are regularly reported at national and international conferences, published in peer-reviewed journals, and also receive local and international media attention. Undergraduate medical, audiology, engineering and science students also provide considerable impetus to the research.

The research team is strongly supported by clinicians who provide excellent clinical perspectives and feedback to the Executive Board and the administrative staff. The ESIA management is concentrating on providing an effective Intellectual Property policy which includes a mechanism for sharing the proceeds if a project produces a commercial dividend. The success rate of applications for grants to support research funding continues to be less than desirable. The financial support of the clinical activities of the ESIA and the Lions Hearing Clinics is appreciated. The research activities are concentrated in four main areas.

Molecular and Cellular Otolaryngology

Participants: Dr Reza Ghassemifar, Dr Robert Marano, Dr Peter Santa Maria, Dr Keith Anandacomaraswamy, Sharon Redmond, Melissa Zheng, Emma Brooks, Natalie Moska.

Collaborators: Prof Ming Hao Zheng, Orthopaedics Unit, School of Surgery and Pathology, UWA. Dr Traian Chirila, Queensland Eye Institute and University of Queensland, Brisbane.

The Molecular and Cellular Otolaryngology Group is primarily focused on the development of an artificial tympanic membrane.

This requires gaining a thorough understanding of how the cells in the ear grow, how they interact with each other, and what conditions inhibit and promote cell growth.

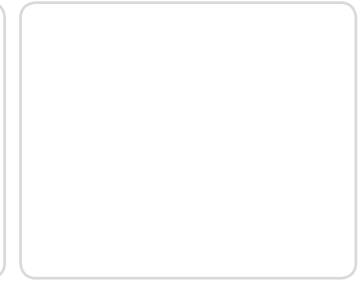
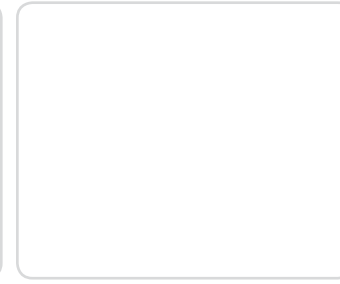
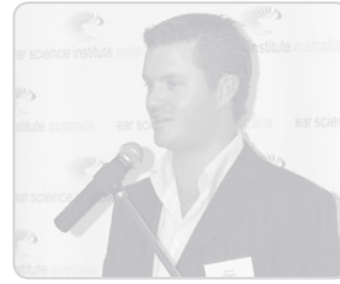
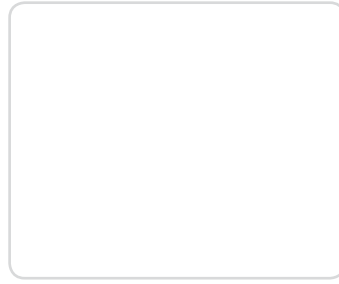
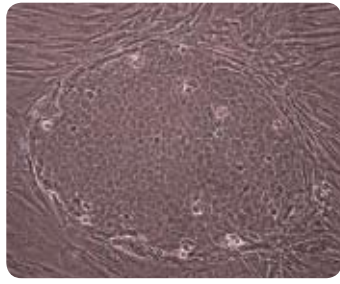
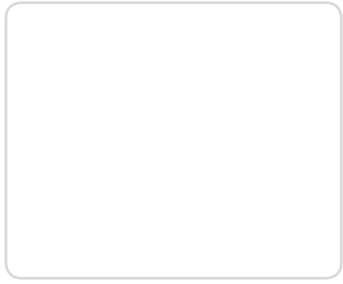
Cell culture of tympanic membrane cells: The group has successfully developed tissue culture techniques to grow various cells of the ear in laboratory conditions. The cells include keratinocytes of the tympanic membrane and of the inner and outer ear canal, bone cells of the mastoid, and cells from the malleus bone.

Bio-molecular techniques such as flow cytometry and confocal microscopy, and laboratory protein analysis have been used to identify and characterise the various cells. We have also been able to learn about growth factors that inhibit and promote cell growth. The laboratory now has a frozen bank of cells that allow us to undertake further scientific work.

Vitamin C: Ascorbic Acid or Vitamin C has long been considered an important nutrient for the body. An investigation by our laboratory has shown that the addition of Vitamin C to our cell culture media has a significantly increased cell growth by showing a more criss-cross and tightly interwoven morphology. Genetic and protein analysis has confirmed that Vitamin C promotes the action of a number of important genes and growth factors. Vitamin C is now added routinely to our cell culture media.

Highlighted pic:
Dr Robert Eikelboom,
ESIA Senior Scientist





Scaffolds: A scaffold or structure is an essential element for the development of an artificial tympanic membrane. These will support the eardrum cells, and provide mechanical strength. Scientists at ESIA are collaborating with scientists in Queensland to utilise a derivation of silk as a scaffold. Early work suggests that silk is a superior material to others we have tested.

Animal model for tympanic membrane perforation:

Although most perforations of the tympanic membrane heal naturally, it is not known what causes this healing to occur and why some perforations do not heal. Supported by the Garnett Passe and Rodney Williams Memorial Foundation, ESIA scientists are undertaking a large genetic analysis of healing perforations. These are expected to show which genes are responsible for healing. With this knowledge we plan to develop an animal model in which we 'switch-off' the genes responsible for healing, resulting in a permanent perforation. This will enable us to test the repair of the perforation with an artificial membrane.

Shock proteins: A number of proteins are active in tissues that enable the cells to adapt to shocks such as sudden changes in temperature or mechanical assault. In response to these external insults, their gene expression profile is changed and adapted accordingly. ESIA scientists have for the first time identified these shock proteins in eardrum cells, showing that there are sudden changes in response to loud sound. These proteins appear to play an important role in protecting the ear against damage from loud sounds.

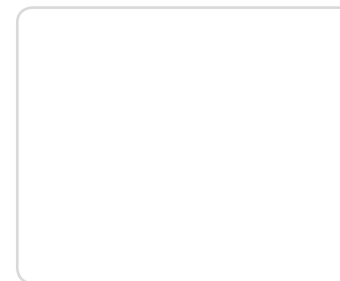
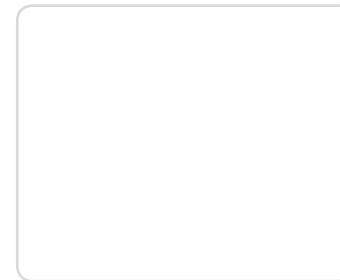
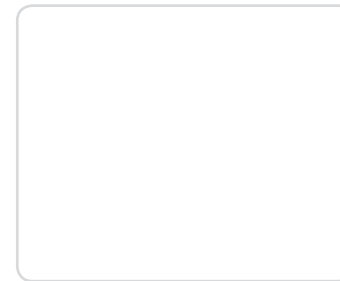
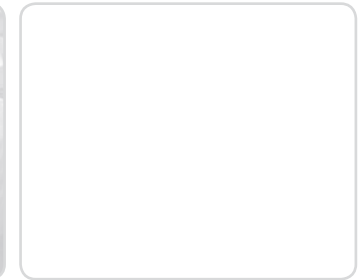
Computer and Information Science

Group members: Dr Robert Eikelboom, Mark Gallop, Dr Leigh Goggin, Prof Marcus Atlas, Bronwyn Grant, Kasun Liyanaarachchi.

Ear Telemedicine: Telemedicine uses imaging and communications technologies to provide health services to those living in rural and remote areas. There is an urgent need for these services as there are high levels of untreated ear disease and hearing loss in many rural and remote places. However, it is often difficult to have ear specialists or audiologists service these areas adequately.

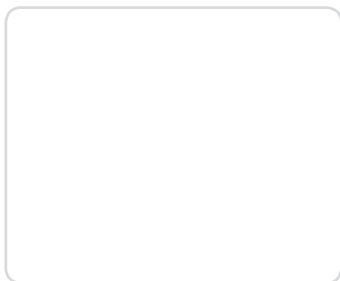
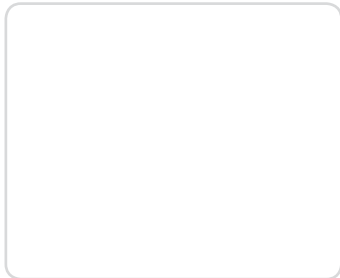
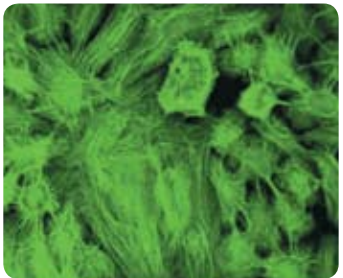
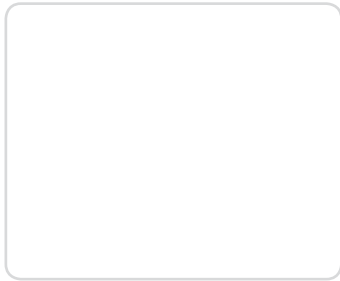
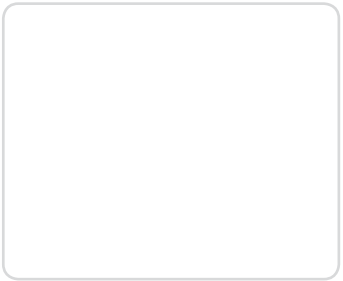
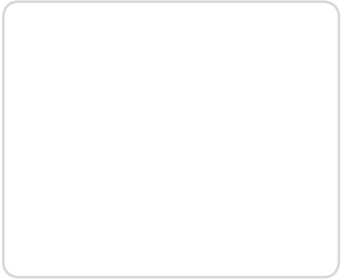
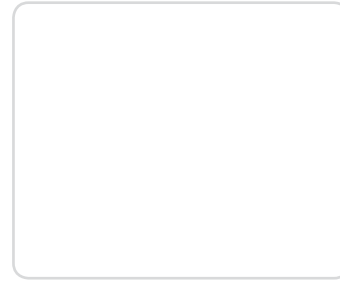
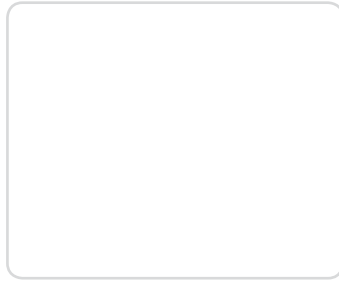
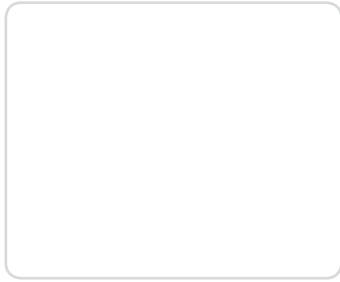
With ESIA's ear telemedicine system, images of the eardrum and ear canal, results of a hearing test and a clinical history an ear specialist can make a diagnosis and provide management advice. The system is being used in number of sites in Australia. Significant interest from across Australia has led ESIA to work with a number of partners to develop a commercial basis to make this technology available to many people. There is much scope for involvement of government and non-government organisation and resource companies in this process.

Computer Aided Diagnosis: Doctors and medical specialists make the diagnosis of a patient's condition based on a series of questions, observations and test results. The experience of the clinician largely governs which questions are asked, and the confidence in the diagnosis. ESIA scientists have developed a computer aided diagnosis system that is based on all the symptoms associated with over 100 ear related conditions. The information has come from over 700 published papers of data from over 250,000 patients. The computer program presents a list of the important questions, and a list of the most likely diagnoses, which change in order as questions are answered. The system is undergoing preliminary validation trials and early results show it to be very accurate. Clinical trials commence in early 2007.



*Highlighted pics:
Human eardrum stem cells
undergoing differentiation*





Clinical Research

Group members: Prof Marcus Atlas, Dr Ruth Blackham, Dr Gunesh Rajan, Dr Leigh Goggin, Dr Robert Eikelboom, Dr Kavitha Subramaniam, Dr A Whyte, Dr Nezrean Mohamed, Dr Rajesh Singh, Gemma Edwards, Katrise Eager, Roberta Marino, Gemma Ivey, Philippa Hatch, Afaf Abed, Amanda Ireland, Ryan Juniper, Helen Richards, Pieter Rogers.

Collaborators: Dr Alexander Huber, University of Zurich. Dr Clough Shelton, Division of Otolaryngology-Head and Neck Surgery, University of Utah. Prof Lyle Palmer, Genetic Epidemiology, UWA.

Semi-circular Canal Dehiscence: Semi-circular Canal Dehiscence Syndrome (SCDS) is a condition that has only recently been identified. Thinning of the bone close to one of the balance canals results in patients suffering dizziness in response to a particular sound. ESIA is managing one of the largest groups of patients in the world with SCDS. Surgery successfully cures the condition. Our investigation of the data on our patients has led us to the discovery that the frequency of the sound that causes discomfort and dizziness is linked to the size of the thinning of the bone. This has never been reported before, and has implications for counselling of patients and planning for surgery.

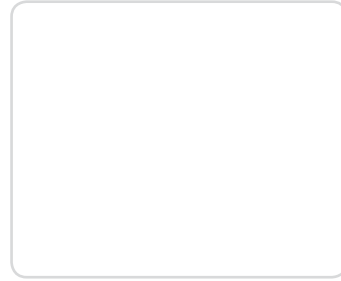
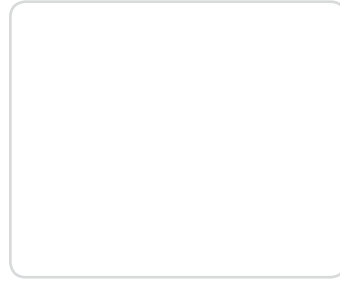
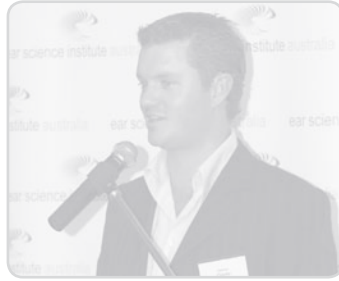
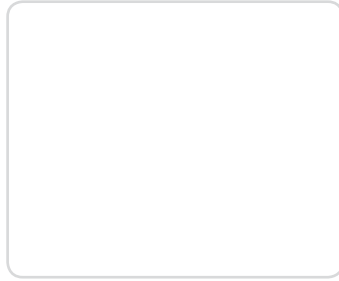
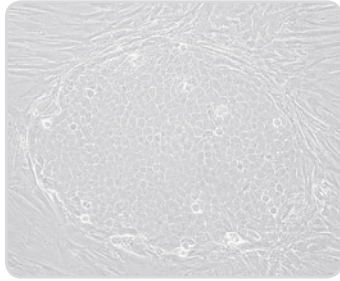
Nitinol: Ear surgeons use a variety of prosthetic devices to rebuild the structures in the middle ear damaged by disease. These devices are crimped to either the malleus or incus bone with a piston. However, both over- and under-crimping are risks to providing stable long term hearing outcomes. ESIA surgeons are using a relatively new device made from a special alloy called Nitinol, which is crimped by the application of heat. This results in a much safer crimp onto the bone, with less risk of movement some time after surgery. This has been supported by a collaborative study ESIA has conducted with large centres in Switzerland and USA.

Meniette Device: Ménière's Disease is a debilitating condition affecting hearing and balance. Until recently there were few treatment options between medical management and surgery. Surgeons at ESIA also advise the use of the Meniette, a device that utilises a programmed series of low-pressure changes in the middle ear to affect the fluid dynamics in the inner ear. ESIA has previously reported very good outcomes for a series of patients who have used the Meniette. A study is currently in progress to assess the affect of the Meniette on hearing.

Joondalup Family Health Study: ESIA will play a crucial role in the Joondalup Family Health Study, a population survey of many health parameters among the 70,000 residents of the City of Joondalup every three years. We will be determining the hearing levels of all age groups. This kind of study has never been done before in Australia. We will also be investigating which environmental and genetic factors can be linked to common ear conditions such as age-related hearing loss, noise-related hearing loss, chronic ear disease and otosclerosis.

Highlighted pic:
Human eardrum keratinocytes
grown on silk





Audiology Research

Participants: Gemma Edwards, Katrise Eager, Roberta Marino, Gemma Ivey, Vesna Maric, Philippa Hatch, Vathsala Akilan, Nasser Al-Hammad, Jordan Amor-Robertson, Tom Cassidy, Paris Dove, Karan Johar, Kristen Kiroff, Rhuju Mehta, Sian Meyer, Jacqui Lyn Saw.

Over 8,000 patient contacts are made each year at the ESIA clinics. Researchers and clinicians constantly assess the outcomes after fitting devices and providing rehabilitation, in order to improve the optimal care and advice provided to patients.

Hearing aid use: It is well known that first time hearing aid wearers face a variety of problems often leading to less frequent use of the aid or none at all. ESIA conducted a large study of first time hearing aid wearers and compared them to longer-term users. The results provide feedback to our audiologists on ways to improve patient support when they are first fitted.

Bone Anchored Hearing Aid: The BAHA has been provided to patients at ESIA with single-sided hearing loss. The device transmits sound from the hearing impaired side, through the bone, to the normal ear, overcoming the problems experienced by patients in terms of speech discrimination and localisation of sound. Our current research program is focused on developing protocols to optimise patient selection and to provide the best advice to patients prior to fitting a BAHA.

Asymmetrical hearing loss: Reduced or complete loss of hearing in one ear only has been considered a disadvantage. A recent study by ESIA has shown that these patients reported problems with the ability to determine where sound is coming from far more than those with bilateral hearing loss.

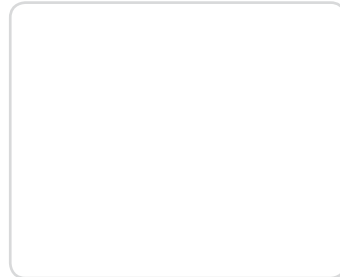
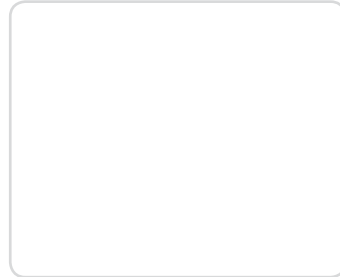
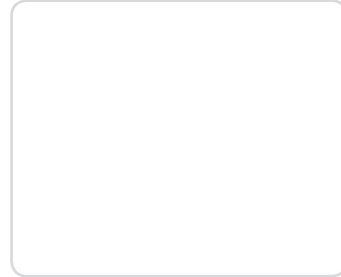
Tinnitus: Tinnitus is a common debilitating condition and in severe cases, ESIA audiologists may recommend the use of the Neuromonics Tinnitus Treatment device. Early results show that it is very effective. ESIA is undertaking independent research on the effect of this device and other treatments that are recommended.

Cochlear implants: ESIA is the largest cochlear implant provider in Western Australia. Previously implanted in profoundly deaf people, cochlear implants are now also offered to patients with some residual hearing. Until recently it was assumed that the remaining hearing was lost because of the surgery. However, newer implants mean minimised damage and ESIA's study shows some residual hearing is preserved. This provides the possibility of a hearing aid supplementing the cochlear hearing, therefore improving the quality of the hearing. Another study at ESIA has shown that speech recognition is significantly improved after an implant.

Noise exposure: Exposure to noise in entertainment venues or through use of personal music devices is becoming a significant community issue. Although the use of noise protection devices when using machinery or in noisy workplaces is widespread, the community is less aware that long exposure to any loud sound can cause permanent hearing loss.

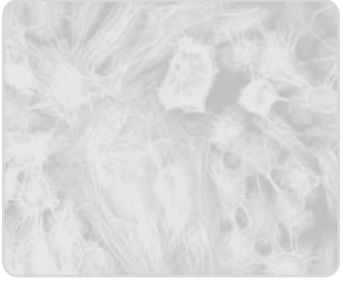
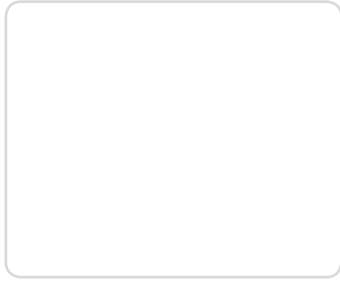
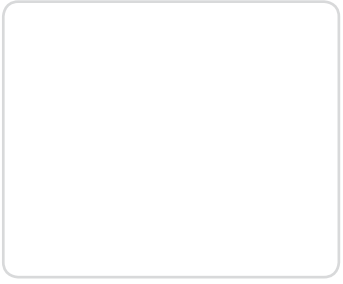
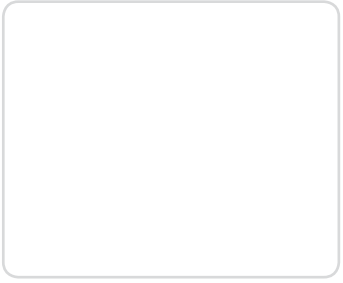
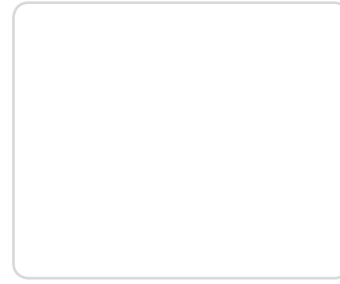
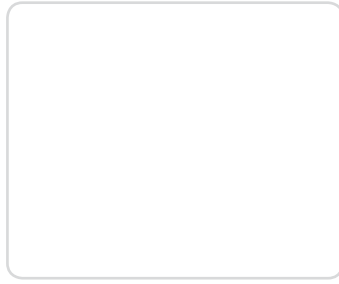
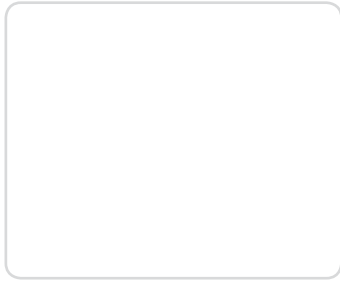
In a study of entertainment venues, ESIA researchers found that many patrons were exposing themselves to dangerous sound levels for periods of time far beyond what is considered safe. The study also found that approximately half of the patrons experienced some form of temporary disability after exposure to loud sounds in entertainment venues. Further work is being undertaken to develop an education campaign to alert the public to the effects of loud sounds and steps they can take to minimise these effects.

Dr Robert Eikelboom
Research Manager/Senior Scientist



*Highlighted pic:
Jordan Smalley experiences
restored hearing*





*Highlighted pic:
Gemma Upson, ESIA Head of Audiology*



Lions Hearing Clinic Report

Growth and expansion have been driving forces for the clinics throughout the 2005/2006 year as they continued to provide an excellent service to the Western Australian community. A new clinic has been opened, staff numbers have increased by 40%, and services within established clinics have been expanded.

New look, new logo, new clinic

As part of our vision to extend a wide range of audiological and affiliated services into the community, a new Lions Hearing Clinic has been opened in Coghlan Road, Subiaco. Within the next 12 months, the clinic aims to introduce a psychologist and speech pathologist to further develop our interdisciplinary approach to treating the hearing impaired.

Lions Hearing Clinics in Joondalup and Nedlands continue to provide excellent service to adults and children alike. Services in these clinics such as auditory processing have been reviewed and a new, more comprehensive test battery has been developed. The Winthrop clinic has been open approximately 2 years and will soon be expanding to include an additional audiologist and child services. This provides our clients south of the river another service option that's closer to home.

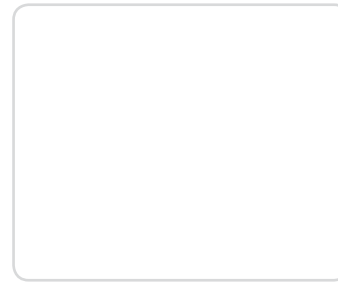
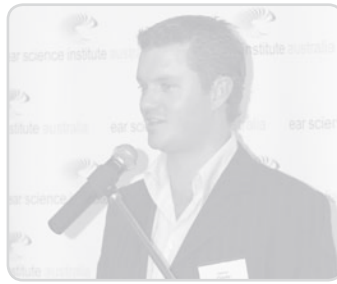
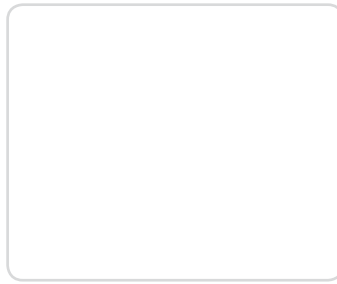
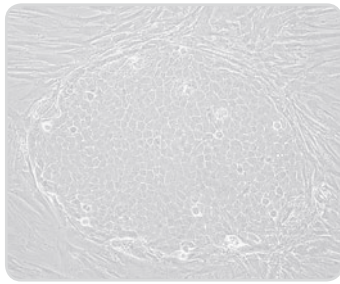
The Implant Centre in Sir Charles Gairdner Hospital continues to go from strength to strength. Our cochlear client numbers have increased 20% and the demand for vestibular appointments has risen. This year the Implant Centre was involved with the rehabilitation of Danny Clarke, the first person in Western Australia to undergo surgery for cochlear implants in both ears at the same time. Danny, who suddenly lost his hearing at the age of 25, is an inspirational recipient (see feature story on page 7).

To extend and refresh our professional image, a new logo was designed and the clinics re-branded. The new logo is in keeping with our focus on client care and a commitment to offer a service that is backed by leading edge research.

Out and about in the community

Once again, this year has seen the Lions Hearing Clinics out in the community raising awareness and conducting research on ear and hearing related issues. Roberta Marino spent 3 weeks in the Kimberley region measuring the hearing of over 200 children in 12 remote communities. The trip arose from a project begun in 2002 when Roberta, as part of the Kimberley Education Department, visited communities measuring children's hearing, classroom ambient noise levels and installing sound field amplification systems. Three years later she was following up on the project - re-testing hearing levels and assessing the effectiveness of sound field amplification systems.

Educational Community Forums in Nedlands and Joondalup were organised throughout the year addressing hearing loss, hearing aids, tinnitus, single-sided deafness, current Institute research and surgery options. Excellent feedback was received on each occasion. A number of other educational talks were given throughout the year at Lions Clubs, Men's Probus Club, Retirement Villages, to ENT registrars, ENT nurses and high schools.



The Lions Hearing Bus, owned by the Lions Hearing Foundation, has increased its screenings this year throughout the metropolitan and rural areas. The bus has been visiting shopping centres, retirement villages and children's homes, providing easily accessible services to all parts of our community. A 3 day trip to the Dowerin Field Day allowed audiologists and UWA audiology students to conduct hearing screenings and provide invaluable information to farmers on noise-induced hearing loss.

Our implant audiologists are also involved with the Cicada group (Cochlear Implant Club and Advisory Association) which meets at Sir Charles Gairdner Hospital bi-monthly. There has been a very good response to the meetings over the last year. Guest speakers have presented topics ranging from the release of the New Freedom Cochlear implant to troubleshooting using cochlear implant accessories and using the telephone with cochlear implants. The meetings have an important social element, giving those with cochlear implants a support network and providing prospective cochlear implant candidates and their families with an opportunity to meet past recipients.

Conferences

In May 2006, Perth hosted the National Audiology Australia Conference at the Perth Convention Exhibition Centre. Roberta Marino gave presentations on residual hearing with cochlear implants and her visit to the Kimberley. Katrise Eager and Gemma Ivey were involved with the Bone Anchored Hearing Aid workshop.

The Australian College of Audiometry (ACAud) held a conference in April at which Roberta Marino presented a seminar on cochlear implants and bone anchored hearing aids. In June audiologists attended an evening seminar for General Practitioners at St John of God Hospital where Gemma Ivey spoke about tinnitus and Roberta

about single-sided deafness. All presentations highlighted the excellent clinical work being undertaken at ESIA, and were very well received by the audience.

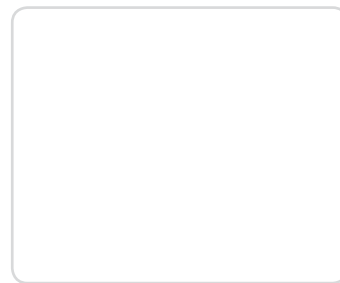
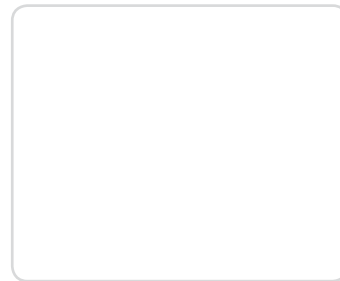
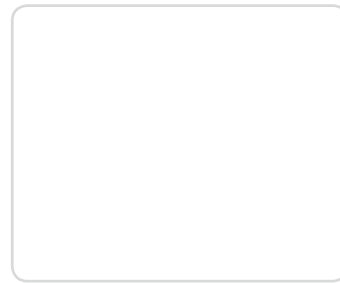
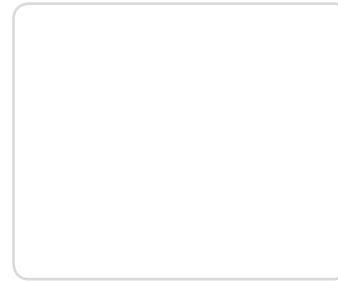
Staffing

With the clinics expanding at a rapid rate and several audiologists on maternity leave, the past year has seen various changes in roles and some fresh faces. Katrise Eager commenced maternity leave in April 2006 and Roberta Marino took over the role of Co-ordinator of the Cochlear Implant Centre. Elle Chapman also joined the Implant Centre.

We have welcomed two audiology graduates to the team: Philippa Hatch and Nicola Linton. Philippa is based in the Nedlands clinic and Nicola was based at the Joondalup clinic before commencing maternity leave. Three additional audiologists have also started with us this year: Liz Rocher, Bev Eintracht and Vesna Maric have many years of audiology experience between them.

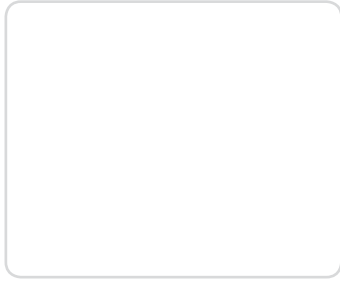
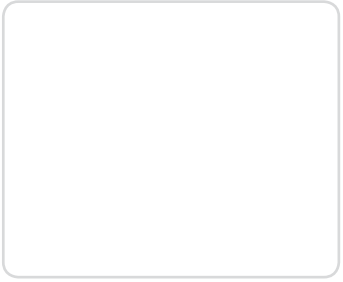
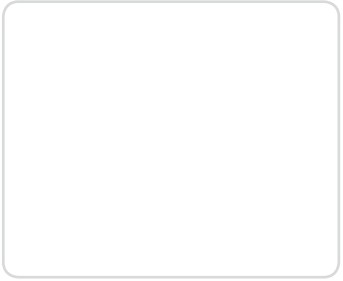
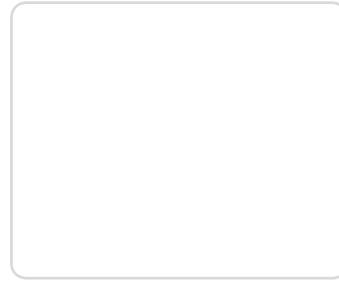
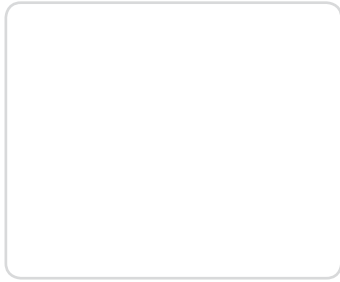
New administration staff have also joined the team: Nyssa Carroll, Rachel Giancaspro and Hayley Brandreth. Sincere thanks go to the remarkable clinical and administration team we have in the Lions Hearing Clinics for their hard-work, professionalism and caring attitude. It is exciting to look toward the next 12 months and beyond to build on our remarkable progress and success to date.

Gemma Edwards
Head of Audiology



*Highlighted pic:
Elle Chapman, ESIA Audiologist*





Highlighted pic:
Lions Hearing Clinic,
quality audiological services



Publications and Grants

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on quality of life after cerebellopontine angle surgery. *Otolaryngology - Head and Neck Surgery*, 133:339-346.

Subramaniam K, Eikelboom RH, Marino R, Atlas MD, Rajan GP (2006) Patient's QOL and hearing outcomes after stapes surgery. *Clinical Otolaryngology*, 31:273—279.

Wille-Bischofsberger A, Rajan GP, Linder TE, Schmid S (2007) The Impact Of The SMAS On Frey's Syndrome After Parotid Surgery: A Prospective Long- Term Study. *Plastic and Reconstructive Surgery*, accepted for publication.

Presentations and posters

Anandacoomaraswamy KS, Eikelboom RH, Robertson T, Atlas MD, Ghassemifar R. Tissue Engineering of the Human Tympanic Membrane. *Frontiers in Otorhinolaryngology, Sanctuary Cove, July 2006*.

Anadacoomaraswamy KS, Ghassemifar R, Santa Maria P, Watts G, Eikelboom RH, Atlas MD, Rajan G. A meta-analysis of myringoplasty surgery: support for improving surgical techniques. *ASA National Scientific Conference, Perth, May, 2006*.

Anandacoomaraswamy KA, Watts GD, Eikelboom RH, Atlas MD, Rajan GP. Successful Myringoplasty (Type I Tympanoplasty): A Meta-analysis Comparing Paediatric and Adult Populations. *The International Meeting of Australasian Society of Paediatric Oto-rhino-laryngology, July 2005, Fiji*.

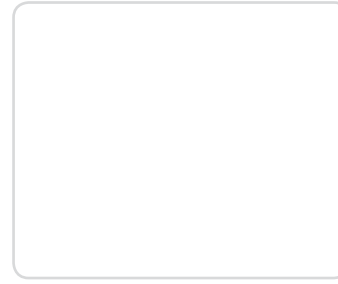
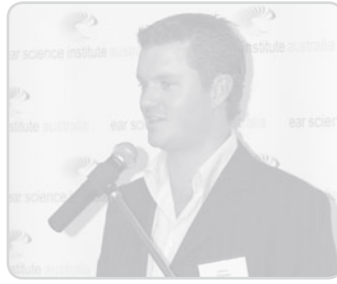
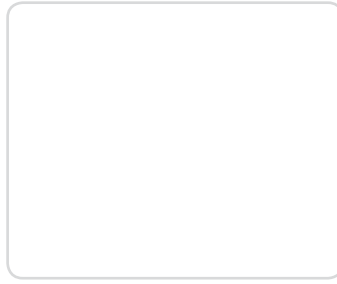
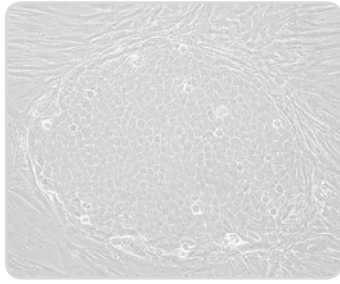
Anandacoomaraswamy KS, Robertson T, Dutton N, Eikelboom RH, Atlas MD, Rajan GP. Tympanic membrane structure analysis and tissue engineering. *4th International Symposium on Middle Ear Mechanics In Research and Otology (MEMRO), 27-30 July, 2006, Zurich. (poster)*

Atlas MD. Stapedectomy - New Technologies and Techniques. *Australian Society of Otolaryngology Head and Neck Surgery Scientific Meeting, Melbourne, April 2006*.

Atlas MD. Stapedectomy - Predicaments and Pitfalls in Cholesteatoma Surgery. *Australian Society of Otolaryngology Head and Neck Surgery Scientific Meeting, Melbourne, April 2006*.

Atlas MD, Eikelboom RH. Computer science in otology: smart diagnostics and tele-otology. *Frontiers in Otorhinolaryngology, Sanctuary Cove, July 2006*.

Atlas MD. Middle Ear Surgery Course, *American Academy of*



Otolaryngology Annual Meeting, Toronto, September 2006.
 Atlas MD. Tissue engineering of the tympanic membrane & external ear canal. Bionics and Regeneration of the Ear. 7th International Academic Conference of Immunobiology in Otorhinolaryngology, Melbourne, November 2006.

Atlas MD. Mastoidectomy Cavities – Leave alone, reconstruct or eliminate flaps - obliteration with vascularized soft tissue. 25th Politzer Society Meeting, Seoul, Korea, Oct 2005.

Atlas MD. Acoustic Neuroma – improving quality of life after translabyrinthine surgery, 25th Politzer Society Meeting, Seoul, Korea, Oct 2005.

Atlas MD. Modern Mastoid Surgery – New Techniques. AAO-HNSF Annual Meeting & OTO Expo, Los Angeles.

Atlas MD. Cholesteatoma Surgery: Canal Wall Up Vs Canal Wall Down – Old Arguments Re-visited. XVIII Congress of the International Federation of Oto-Rhino-Laryngological Societies (IFOS), Rome.

Atlas MD. Modern Mastoid Surgery – New Techniques. XVIII Congress of the International Federation of Oto-Rhino-Laryngological Societies (IFOS), Rome.

Brooks E, Marano RJ, Eikelboom RH, Redmond S, Atlas MD, Ghassemifar R. Ascorbic acid increases expression of connective tissue growth factor (CTGF) in primary tympanic membrane cell cultures. Bionics and Regeneration of the Ear, 7th International Academic Conference of Immunobiology in Otorhinolaryngology, Nov 2006, Melbourne. (poster)

Eager KM. Bone anchored hearing aids for single sided deafness- what do users really think? The Acoustic Neuroma Conference, Princess Alexandra Hospital, Brisbane, July 2005.

Eager KM, Marino R, Atlas MD, Eikelboom RH. Development of a protocol for fitting bone anchored hearing aids to patients with single sided deafness. Bionics and Regeneration of the Ear, 7th International Academic Conference of Immunobiology in Otorhinolaryngology, Melbourne, November 2006. (poster)

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Eikelboom RH, Atlas MD, Gallop MA. Aurisview: design, development and implementation of a tele-otology system. Frontiers in Otorhinolaryngology, Sanctuary

Cove, July 2006. (poster)
 Eikelboom RH, Gallop MA, Marino R, Sutherland F, Atlas MD, Rajan GP. Tele-otology - a tool for education and telemedicine. 4th International Symposium on Middle Ear Mechanics In Research and Otology (MEMRO), 27-30 July, 2006, Zurich. (poster)

Eikelboom RH, Atlas MD. Changing the way that Ear Health is delivered. E-Health Forum, Geraldton, May 2006.

Eikelboom RH, Atlas MD. Video-otoscopy and tele-otology for managing ear health in remote areas. PINA Ear Health Conference, Kalgoorlie, Oct. 2006.

Eikelboom RH. Video-otoscopy and tele-otology – Workshop for Health Care Workers and Nurses, Kalgoorlie, October 2005.

Eikelboom RH, Anandacoomaraswamy KS, Atlas MD. Tissue Engineering and Biomaterials in Otology – The Future. 25th Politzer Society Meeting, Seoul, Korea, Oct 2005.

Ghassemifar R, Moska N, Redmond S Anandacoomaraswamy KS, Eikelboom RH, Atlas MD. The expression of KGF-1, KGF-2 and their receptors in primary human ear tissue cells. Frontiers in Otorhinolaryngology, Sanctuary Cove, July 2006. (poster)

Ghassemifar R, Moska N, Redmond S Anandacoomaraswamy KS, Eikelboom RH, Atlas MD. The expression of KGF-1, KGF-2 and their receptors in primary human ear tissue cells. Bionics and Regeneration of the Ear, 7th International Academic Conference of Immunobiology in Otorhinolaryngology, Nov 2006, Melbourne. (poster)

Lewkowsky K. Basics in Vestibular Testing. Association of Neurophysiological Technologists of Australia, Perth, August 2005.

MacKenzie D, Eager KM. BAHA – More than two syllables. Bone anchored hearing aid workshop. Audiological Association of Australia, National Conference and Workshops, Perth, May 2006.

Marino R, Eager KM, Atlas MD. Auditory Brain Stem Implant – A Western Australian first. Audiological Association of Australia, National Conference and Workshops, Perth, May 2006.

Marino R, Kania A, Eikelboom RH, Eager KM, Wright E. Auditory memory skills of Aboriginal children in the Kimberly. Audiological Association of Australia, National Conference and Workshops, Perth, May 2006.

Rajan GP, Huber, Blackham R, Eikelboom RH, Atlas MD. No more crimping in stapedotomy? A multicentre trial with the Nitinol stapes piston. 4th International Symposium on Middle Ear Mechanics In Research and Otology (MEMRO), 27-30 July, 2006, Zurich.

Rajan GP, Whyte A, Atlas MD, Eikelboom RH. The effects of superior semicircular canal dehiscence on hearing: does size of the dehiscence have an impact? 4th International Symposium on Middle Ear Mechanics In Research and Otology (MEMRO), 27-30 July, 2006, Zurich.

Rajan GP. Semicircular Canal Dehiscence Syndrome- Diagnosis and Management. Swiss Society of Otolaryngology, Head & Neck Surgery, 2005

Rajan GP. Management of skull base lesion: an overview, AIMS 2006, Kochin, India.

Rajan GP. Otosclerosis – an update, ASOHS (WA) Scientific Meeting, Nov 2006, Perth.

Grants
 Garnett Passe and Rodney Williams Memorial Foundation: Tissue engineering of the human tympanic membrane, Surgeon-scientist Scholarship, \$60,000 (to be checked).

Garnett Passe and Rodney Williams Memorial Foundation: Laser welding, Project grant, \$77,347 (to be checked).

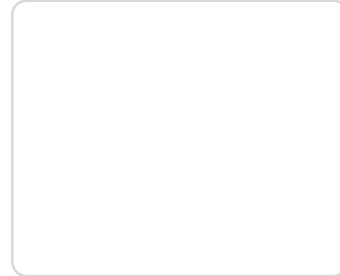
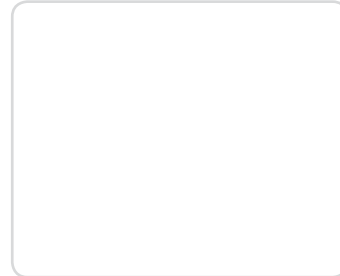
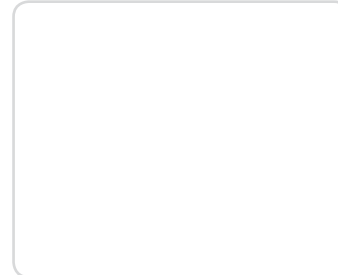
Garnett Passe and Rodney Williams Memorial Foundation: The Tympanic Membrane and its molecular and cellular responses to structural injuries, Project grant, \$79,534 (to be checked).

The University of Western Australia/DEST: Teaching and research, \$10,987.

Western Australian Medical Research Infrastructure Fund: \$12,341.

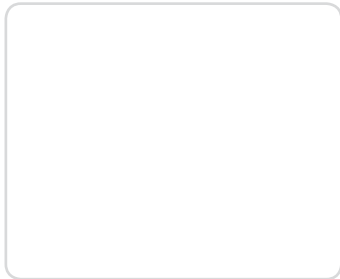
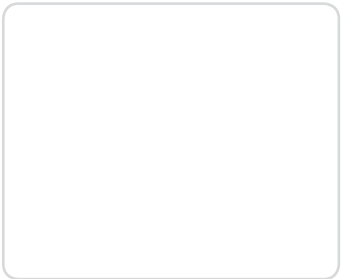
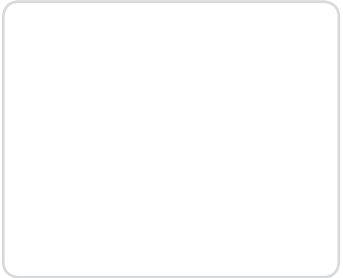
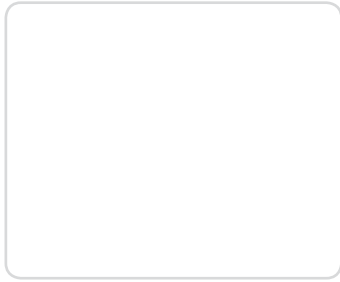
Egli-Weber-Foundation, Zurich, Switzerland, Teaching grant, \$25,000.

Stiefel-Zangger-Foundation, Zurich, Switzerland, Research Grant, \$80, 000.



*Highlighted pic:
 The importance of hearing to quality communication*





ESIA Financial Report

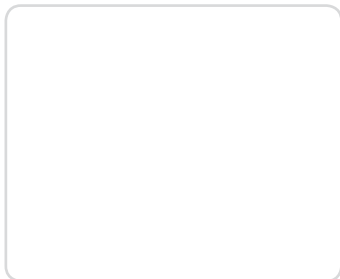
Lions Ear and Hearing Institute of Western Australia Incorporated (Changed name to Ear Science Institute Australia on July 12, 2006)

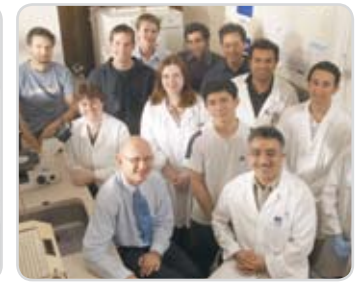
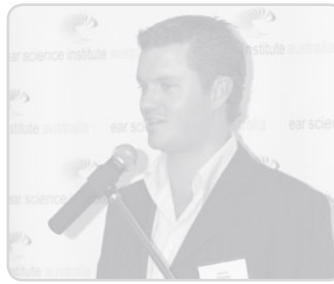
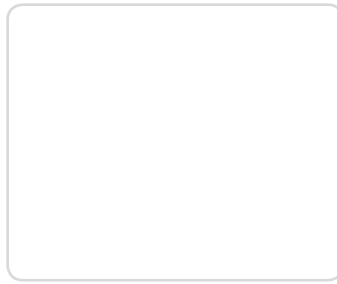
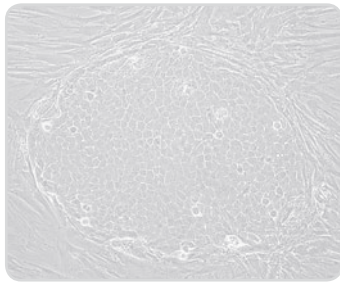
The following financial information is taken from the Audited Special Purpose Financial Statements for the year ended 30 June 2006 and provides the key indicators of performance and activities for the fifth year of operations.

Statement of Income and Expenditure for the year ended 30 June, 2006

	2006 \$	2005 \$
Income for Research and Clinical Services	3,337,925	2,475,879
Expenditure on Research and Clinical Services	2,559,533	2,238,371
Operating Surplus before depreciation	778,392	237,508
Depreciation	82,691	39,883
Operating Surplus after depreciation	695,701	197,625
Accumulated Surplus at the end of the year	766,412	327,212

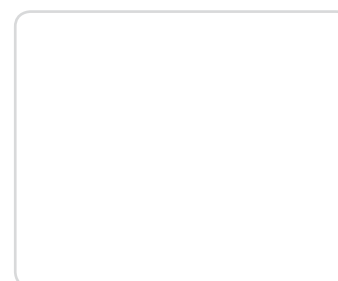
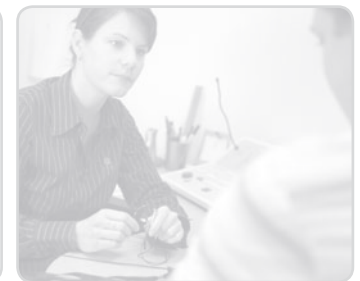
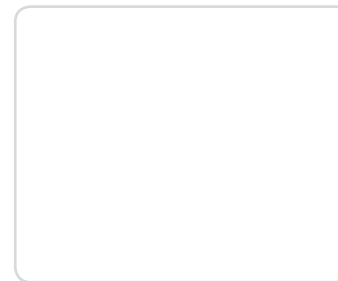
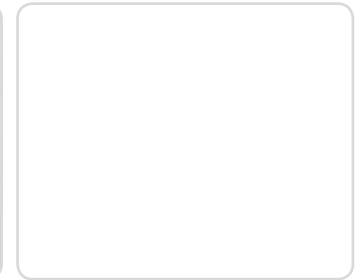
Highlighted pic:
Hearing loss, WA community epidemic





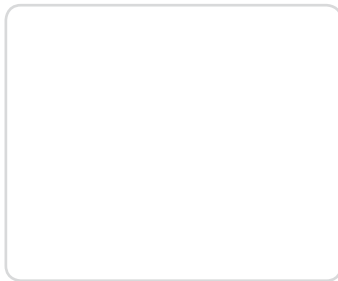
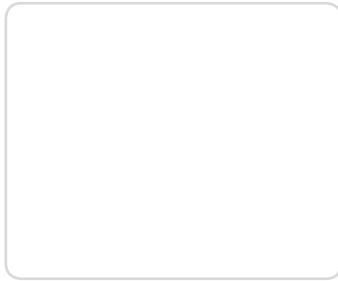
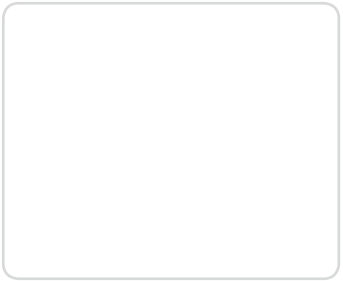
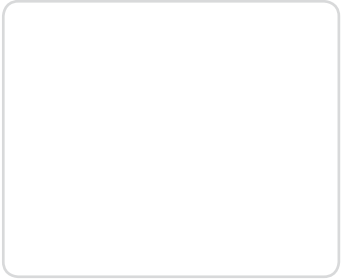
Balance Sheet as at 30 June, 2006

	2006 \$	2005 \$
Members' Funds		
Accumulated Surplus	766,412	327,212
Total Members' Funds	766,412	327,212
Represented by:		
Cash at the Bank	941,454	678,196
Other Assets	392,618	324,221
Property Plant and Equipment	141,775	106,997
Total Assets	1,475,847	1,109,414
Creditors and Borrowings	431,703	403,836
Research Grants	215,199	331,143
Provisions	62,533	47,223
Total Liabilities	709,435	782,202
Net Assets	766,412	327,212



Highlighted pic:
ESIA research team





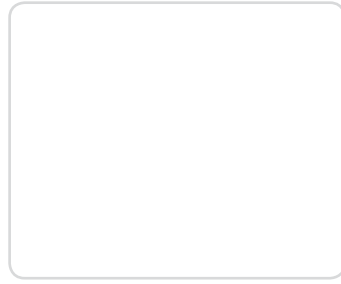
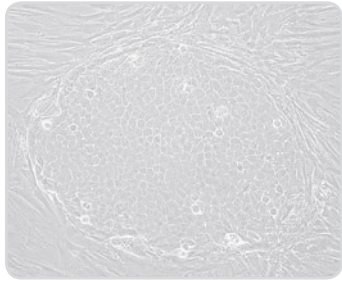
Cash Reserves as at 30 June 2006

The ESIA's cash reserves include amounts specifically set aside for ongoing research projects.
The cash reserves for research projects are therefore:

	2006 \$	2005 \$
Cash at Bank	941,454	678,196
Research Grant Funds not yet expended	215,199	331,143
General Cash Reserves Available	726,255	347,053
Note:		
The University of Western Australia administers a number of grants for research activities of the ESIA		
UWA Research Funds not yet expended	141,304	106,432
Total Cash Reserves (including UWA held funds)	1,082,758	784,628

*Highlighted pic:
Roberta Marino, ESIA Implant
Coordinator with cochlear implant
recipient*

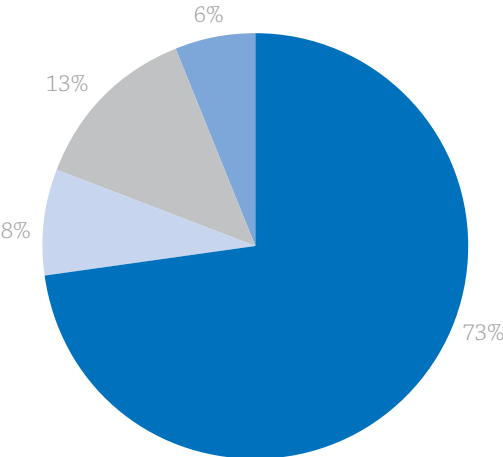




Statistical Summary:

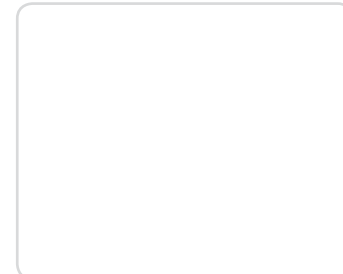
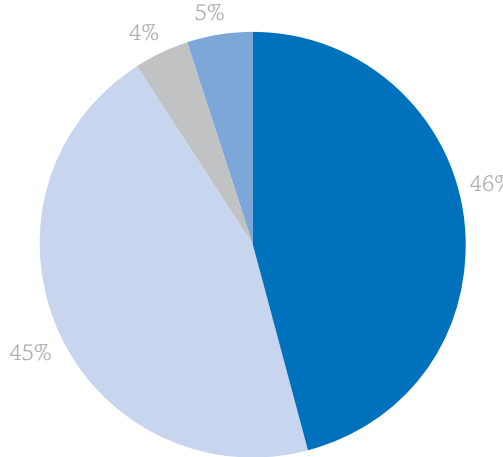
Income for the Year Ended 30 June 2006

Clinical and Audiological	73%	■
Research grants	8%	■
Donations	13%	■
Other	6%	■



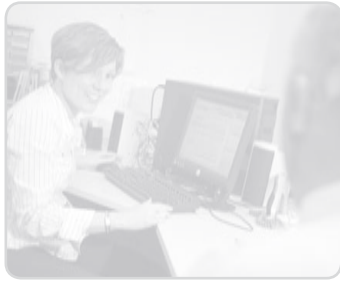
Expenditure for the Year Ended 30 June 2006

Staffing (salaries, fees and on-costs)	46%	■
Research and clinical	45%	■
Equipment, depreciation and maintenance	4%	■
Administration and overheads	5%	■



Highlighted pic:
Keith Anandacoomaraswamy,
ESIA researcher





Lions Hearing Foundation of WA (Inc) Chairman's Report

The Lions Hearing Foundation, since its inception in 1978, has focused on audiology, and especially on providing a hearing service to the public. Due to the success of the Lions Ear and Hearing Clinics, the ESIA is able to place greater emphasis on ear and hearing research.

As a result of this development, the Director, Professor Marcus Atlas and members of the Board of LEHI consulted with the Lions Hearing Foundation to support an initiative to develop a new brand, the Ear Science Institute Australia. The Chairman of the Lions Hearing Foundation has been appointed to the Executive Board of the Ear Science Institute Australia (ESIA) as a permanent member.

ESIA has however managed to obtain a long term lease from the Catholic Church in Salvado Road, Subiaco, opposite St John of God Hospital. This land is in a prime location and in much demand. Subiaco City Council has agreed to the development of a three storey building with parking for 55 cars. The estimated cost of the new building is \$12m.

To offset this name change and to ensure the Lions brand is properly associated with audiological work, it was decided to change the name of the Lions Ear and Hearing Clinics to Lions Hearing Clinics. There are presently four clinics within the metropolitan area, which will all bear the new name and logo, giving Lions greater exposure than ever before.

To raise the funds, ESIA has employed a professional fundraiser, who will seek funds, not only within Australia but also overseas. The change in name to Ear Science Institute Australia will assist in the fundraising project and will alleviate the continuing confusion in the community between the Lions Eye Institute and the Lions Ear and Hearing Institute.

An initial grant of \$300,000 was approved by the Board of Directors in June 2006 to fund the ESIA project which was acknowledged with gratitude by the ESIA Board.

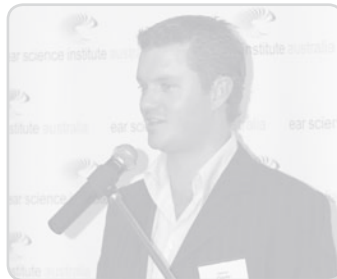
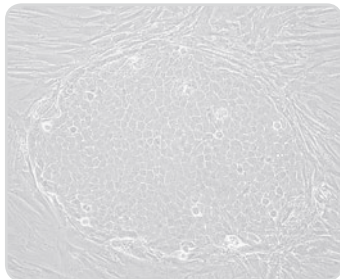
Considerable discussion took place regarding this matter and it was agreed by the Lions Hearing Foundation Board of Directors that a change of name was necessary if the project was to continue, given the fact that it was out of the reach of Lions to raise such an amount. It is worth noting that we as Lions do not have any control over the activities of the LEHI / ESIA. They are a separate entity in their own right. The Foundation was approached because of the strong liaison that exists between us.

Professor Atlas informed the Foundation representatives that for some time the ESIA has been trying to obtain land within the site of Sir Charles Gairdner Hospital to build their own dedicated research premises. At the present time they are spread throughout the complex, which has become somewhat unworkable, especially in the area of research facilities. No land was available due mainly to the hospital embarking on a long term building program.

The new name of the Institute is now the Ear Science Institute Australia (ESIA).

*Highlighted pic:
Lions Club members support ESIA*





Screenings

Screenings remain a very important activity as a free service to the public and as a promotional exercise for the Foundation. With the assistance and experience of the ESIA staff we are continually updating and improving our screenings to provide excellent audiology testing.

In closing, I would like to sincerely thank all members of the Board of Directors for their contribution to the Foundation. Also, Ear Science Institute Australia Director, Professor Marcus Atlas, Research Officer Rob Eikelboom and Manager of Audiology Gemma Edwards, for their expert advice and assistance during the past twelve months.

Treasurer's Report

The audit of the financial statements for the year ended 30th June 2006 has been completed by auditor Mr Rod Broughton, and duly signed. The summarised Financial Accounts are included in this Annual Report.

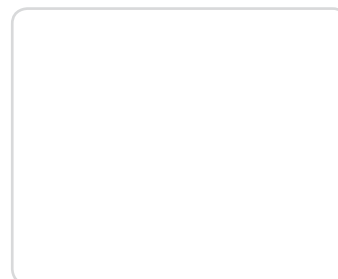
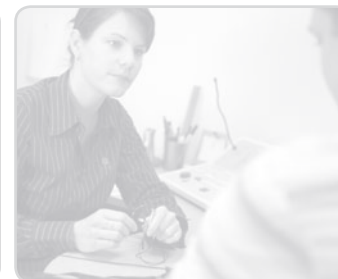
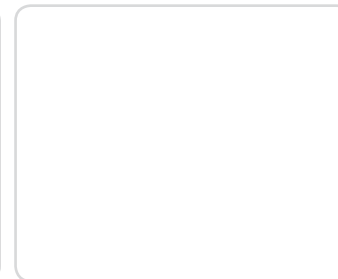
PCC Ian Kelly
Chairman
Lions Hearing Foundation of W.A. (Inc)

Lions Hearing Aid Bank

This project continues to grow every day. Approximately 2000 used hearing aids have been collected and calibrated. Recycled aids have been distributed to Surabaya, India, Bali, Wiluna and Meekatharra.

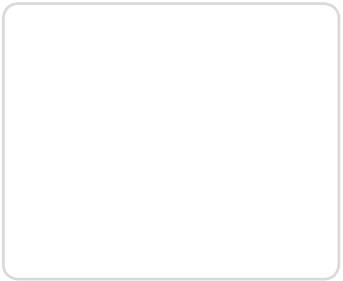
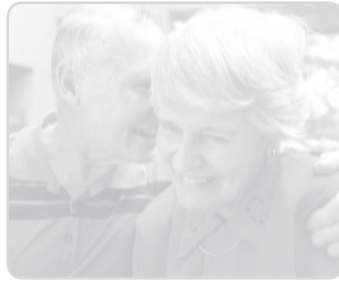
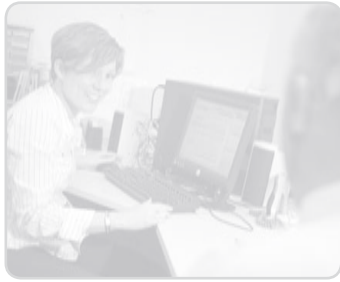
Child Subsidy Scheme

We again this year received \$25,000 from the Disadvantaged Children's Film Festival. These funds are to benefit children in need of professional help whose parents qualify for financial assistance. This project was originally established by the Foundation but is now managed by ESIA. The Foundation holds the funds and reimburses the Institute on a quarterly basis.



*Highlighted pic:
Hearing test at Lions Hearing Clinic*





Lions Hearing Foundation Financial Report

Lions Hearing Foundation of Western Australia (INC.)

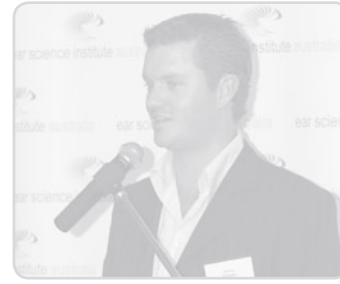
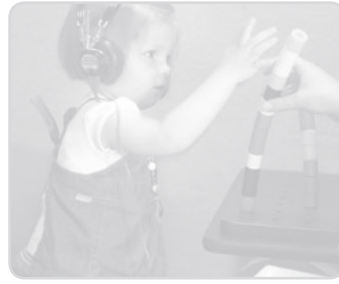
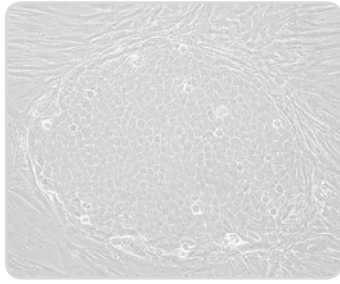
The following financial information is taken from the Audited Special Purpose Financial Statements for the year ended 30 June 2006 and provides the key indicators of performance and activities for the year of operations.

Balance Sheet as at 30 June 2006

	2006 \$	2005 \$
Current Assets		
Cash & bank balances	674,533	897,217
Receivables & loan	9	165
	674,542	897,382
Non-Current Assets		
Investment & loans	77,809	77,809
Plant & equipment	259,406	286,637
	337,215	364,446
Total Assets	1,011,757	1,371,828
Current Liabilities		
Accounts payable	1,000	1,655
Total Liabilities	1,000	1,655
Net Assets	\$1,010,757	\$1,260,173
Equity		
Reserves	100,000	100,000
Retained profits	910,757	1,160,173
Total Equity	\$1,010,757	\$1,260,173

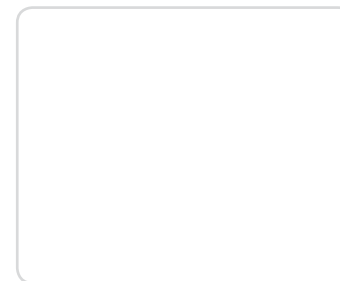
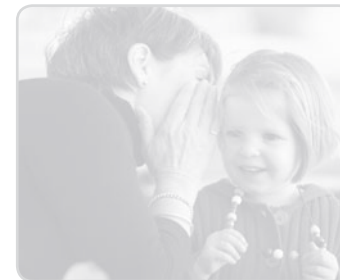
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Financially sound





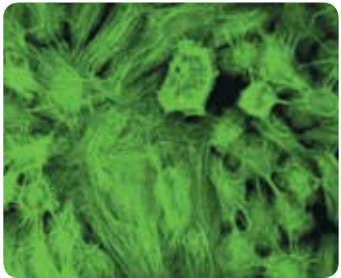
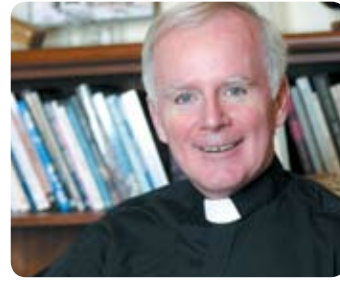
Income Statement for the year ended 30 June 2006

	2006 \$	2005 \$
Income		
Donations	14,564	22,134
Children's film festival	25,000	35,000
Interest	60,701	38,959
Profit on sale of asset	-	1,220
	100,265	97,313
Expenditure		
Audit fees	1,800	1,950
Advertising & promotion	290	362
Bank charges	16	50
Child subsidy scheme	5,315	6,450
Depreciation	29,549	33,111
Donation	250	5,200
Grants to ESIA	300,000	148,500
Insurance	3,520	3,440
Meeting expenses	189	93
Postage, printing & stationery	93	365
Screening bus expenses	5,580	3,828
Screening costs	3,078	2,998
Sundries	1	395
	349,681	206,742
Operating Loss for the year	\$249,416	\$109,429



*Highlighted pic:
The joy of good communication*





Corporate Directory

Executive Board

Prof Marcus Atlas, Director
 Prof Val Alder, Chairperson
 Mrs Susan Bergersen
 Mr Graeme Jolly
 Mr Paul van Saarloos
 Mr Rob Lilburne
 Mr Gunesh Rajan (Invited Member)

Council of Governors

Mrs Susan Bergersen, Chairperson
 Prof Marcus Atlas
 Prof Val Alder
 Mr Ambrose Depiazzi
 Mr Graeme Jolly
 Assoc Prof Harvey Coates
 Mr Keith Cooke
 Mr Ian Kelly
 Prof Alan Robson
 Dr David Russell-Weisz
 Mr Simon Towler

Organisational Structure

1. Molecular and Cellular Otolaryngology Group

Head of Group

Dr Reza Ghassemifar UC (University of Umea, Sweden), MSc
 (University of Linkoping, Sweden), MedDr (PhD)

Researchers

Prof Marcus Atlas MBBS FRACS
 Dr Robert Marano BSc(Hons) PhD
 Natalie Moska
 Sharon Redmond
 Emma Brookes BSc(Hons)

Honorary Research Associates

Dr Gunesh Rajan MD FMH(ORL) FRACS
 Dr Guy Watts MBBS

Post-graduate and Honours students

Dr Keith Anandacoomaraswamy MBBS
 Dr Peter Santa Maria MBBS
 Andrew Stephenson BSc(Hons) student
 Melissa Zhang BSc(Hons) student

Collaborators

Dr Traian Chirila, Queensland Eye Institute
 Ear Sciences Centre, School of Surgery and Pathology, UWA
 Sir Charles Gairdner Hospital
 St John of God Hospital, Subiaco
 Prof Don Robertson, Biomedical, Biomolecular and Chemical Sciences
 Prof Ming-Hao Zheng, Orthopaedics, School of Surgery and Pathology, UWA

2. Clinical Research

Head of Group

Prof Marcus Atlas MBBS FRACS
 Dr Gunesh Rajan MD FMH(ORL) FRACS (honorary)

Researchers

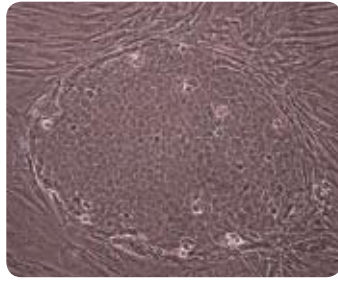
Katrise Eager BSpPath DipAud MAudSA(CCP)
 Gemma Edwards BSc MClinAud MAudSA(CCP)
 Dr Robert Eikelboom BEng MAppSc PhD
 Dr Leigh Goggin

Honorary Research Associates

Afaf Abed
 Dr Ruth Blackham MBBS
 Amanda Ireland
 Ryan Juniper
 Dr Mezrean Mohamed
 Helen Richards
 Pieter Rogers
 Dr Rajesh Singh
 Dr Kavitha Subramaniam MBBS
 Dr A Whyte

Highlighted pic:
 ESIA - Break the Silence





Collaborators

Ear Sciences Centre, School of Surgery and Pathology, UWA
Sir Charles Gairdner Hospital
Curtin University
Fremantle Hospital
Professor Clough Shelton, Head of Neurotology, University of Utah
University of Zurich – Dr Jason Diaz, Dr Alex Huber, Dr Daniel Bodmer
Prof Lyle Palmer, Centre for Genetic Epidemiology, Western Australia
Institute for Medical Research

Nasser Al-Hammad
Jordan Amor-Robertson
Tom Cassidy
Paris Dove
Karan Johar
Kristen Kiroff
Rhuju Mehta
Sian Meyer
Jacqui Lyn Saw
Jo Clements
Rani Mainwaring
Jordan Smalley
Danny Clarke

3. Computer and Information Science

Head of Group

Dr Robert Eikelboom BEng MApplSc PhD

Researchers

Prof Marcus Atlas MBBS FRACS
Mark Gallop BEng
Dr Leigh Goggin
Bronwyn Grant BSc(Health Admin) MBA(Executive)
Kasun Liyanaarachchi

Honorary Research Associates

Dr Gunesh Rajan MD FMH(ORL) FRACS
Dr Harvey Coates AO, MBBS FRACS FAC FRCS(S)

Collaborators

Ear Sciences Centre, School of Surgery and Pathology, UWA
Centre for Genetic Epidemiology, Western Australia Institute for
Medical Research

4. Audiology Research

Researchers

Philippa Hatch BIB MClinaud MAudSA
Gemma Ivey BSc DipAud MAudSA(CCP)
Vesna Maric BSc(Hons) MClinaud MAudSA(CCP)
Roberta Marino BSc(Sp&H) DipAud MAudSA(CCP)

Honorary Research Associates

Vathsala Akilan

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Australian Hearing
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Medtronic Xomed
Neville Nolan
Patricia Kirk
Paula Schneider, John Richardson – WAIDE
Prof Stuart Bunt, Paradigm Diagnostics
Rachael Clack, Audiologist
Paul Higginbotham, CEO Telethon Speech and Hearing
Centre for Children
School of Surgery and Pathology, UWA
Sir Charles Gairdner Hospital
StateWest Credit Society
Sonic Innovations





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