

soundscape

NEWSLETTER OF THE OTICON FOUNDATION IN NEW ZEALAND

THE OTICON
FOUNDATION IN
NEW ZEALAND WAS
ESTABLISHED IN
OCTOBER 1976.

INCOME GENERATED
FROM THE FOUNDATION'S
INVESTMENTS IS
DISTRIBUTED TO GROUPS
AND ORGANISATIONS
SEEKING FINANCIAL
SUPPORT FOR
PROJECTS THAT
BENEFIT THE HEARING
IMPAIRED.

FEBRUARY 2009



It's grant application time

We enter the 2009 round of grant allocations under a cloud of financial and economic uncertainty internationally and in New Zealand. It is at times like these that charitable organisations like the Oticon Foundation can make a contribution beyond their immediate focus. Yes we are looking to support projects that improve the lives of the hearing impaired, but the Foundation is pleased to be able to play its part in investing in New Zealand through its grants at these uncertain financial times. We are now calling for grant applications, which close on 31 March. More information is on the back page of this Soundscape or from www.oticon.org.nz.

Kind regards

Karen Pullar, Secretary to Trustees

Regular Attendance in Aerobic Classes Can Damage Your Hearing

Research conducted by a Masters of Audiology student Eyal Goel, under the supervision of Dr. Emily Lin from the department of Communication Disorders at the University of Canterbury, is now nearly completed.

The results suggest that if you attend an aerobic class regularly without wearing hearing protection, you may be at risk of developing a noise-induced hearing loss.

Measured noise levels in most aerobic classes were higher than the safety levels which has an impact on the hearing of those regularly participating in aerobic classes. This was shown mostly in the

reduction of the activities of outer hair cells and sometimes the shift of hearing threshold. In other words, if you go to aerobic classes regularly, chances are you may experience "temporary emissions shifts" which can lead to a permanent loss of hearing.

Comparisons between measurement of the distortion product otoacoustic emissions (DPOAEs) levels in regular aerobic class goers before and after participation in the classes yielded evidence of temporary emissions shifts which can potentially lead to a permanent loss of hearing.

This latent damage to the cochlea as a

result of noise exposure is consistent with previous studies published in the field of noise-induced hearing loss. In particular, regular attendees of high-risk aerobic classes (with an average noise level exceeding 85 dBA) were found in this study to show the largest reduction of DPOAEs amplitudes over time as compared with low-risk class goers and non-gym goers who attended only one aerobic class.

Emily and Eyal presented the preliminary research results to the American Speech and Hearing Association conference in Chicago and have more presentations planned in the coming American Academy of Audiology conference in Dallas and at the NZAS conference in Taupo later this year. In addition, a journal article is in the pipeline.

**Oticon Foundation
Grant Applications
Now Open.
Close 31 March.
Apply Now!
www.oticon.org.nz**

Monitoring Potential Noise-induced Hearing Loss in Aerobic Class Goers
Eyal Goel*, Emily Lin, PhD*, and John Pearce, PhD**
*Department of Communication Disorders, University of Canterbury, Christchurch, New Zealand
**Department of Mechanical Engineering, University of Canterbury, Christchurch, New Zealand

RESULTS

Over the course of the study, participants showed a significant reduction in DPOAE levels after attending aerobic classes. This reduction was more pronounced in the high-risk group (average noise level > 85 dBA) compared to the low-risk group (average noise level < 85 dBA). The reduction in DPOAE levels was also observed in the control group, but it was less significant.

CONCLUSION

The results of this study suggest that regular attendance in aerobic classes without hearing protection can lead to a permanent loss of hearing. This is due to the noise-induced damage to the cochlea, which can be measured by a reduction in DPOAE levels. Therefore, it is recommended that participants in aerobic classes wear hearing protection to prevent noise-induced hearing loss.

the oticon foundation

Outstanding Research Prize Awarded to Audiologist Gemma Whitehead

Gemma Whitehead has been awarded the 2008 joint Oticon Foundation and University of Auckland prize for Master of Audiology research of outstanding quality – “Optimising Stimulus Parameters and Behavioural Threshold Prediction using Distortion Product Otoacoustic Emissions (DPOAE)”.

Here's how Gemma describes her research:

“I used various stimulus paradigms to record DPOAE growth functions.

DPOAEs are highly variable between individuals, and also within individuals across frequency. This variability inhibits the use of DPOAEs as a

potential measure of cochlear reserve, i.e. audiometric threshold. The stimulus parameters used to elicit DPOAEs are a significant source of variability.

Boege and Janssen (2002) were able to use DPOAE growth functions to accurately predict behavioural threshold in a group of subjects whose hearing levels varied from normal to severely impaired. They had, however, an approximately 20% false positive rate.

I was able to determine that standard clinical parameters result in DPOAE growth functions which were very poor predictors of behavioural threshold. On the other hand, by optimising all

parameters, i.e. level separation AND frequency ratio, I was able to accurately predict behavioural threshold in all 20 normal hearing subjects at 2kHz. By optimising frequency ratio for each individual, I eliminated the group of false positives that Boege and Janssen had reported in their study (they used the standard frequency ratio of 1.22).

Future research requires validation of my research methods over a range of test frequencies, in subjects with a range of hearing levels.”



Tinnitus – the focus of the Oticon Foundation Hearing Education Centre Spring Symposium

A highlight in the University of Auckland's Oticon Foundation Hearing Education Centre calendar is the Tinnitus Discovery: Asia Pacific Tinnitus symposium on 11 and 12 September.

This international symposium is aimed at health care professionals in New Zealand and world-wide.

“This is a chance to get the latest thinking on Tinnitus management, guidance with practical clinical issues and interventions available – ranging from surgery, drug therapy or complementary medicines,” says Professor Peter Thorne, Professor of Audiology and Head of the School of Population Health.

Speakers include Tanit Sanchez, Sao Paulo School of Medicine; Dr Jinsheng Zhang, Professor in the Department of Otolaryngology at Wayne State University School of Medicine, Michigan; Dr Larry E Roberts, Professor, Department of Psychology, Neuroscience and Behaviour at McMaster University, Canada.

For more information email tinnitus@auckland.ac.nz



Rock Climbing – Oticon Foundation helps make it safe and fun

What does a group of one hundred or so Aucklanders, a rock climbing challenge and the Oticon Foundation have in common? Combined, they've made it easy for hearing impaired children and

their families to have a safe fun rock climbing experience.

Auckland Parents of Deaf Children Inc. received funding for a FrontRow to Go soundfield amplification system after experiencing issues communicating with members at events, meetings and

parent education workshops and seminars.

“The FrontRow to Go system has been incredible and is so easy to use,” says Sue Cammell, Development Co-ordinator for the Auckland group.

“Over a hundred of us went rock climbing. The venue was huge, with lots of background noise and no-one could hear what was going on.”

The FrontRow to Go was quickly set up, solving the problem and enabling the safety briefing to be heard by all.

The system has also proved its worth at other family events, the society's AGM and even at the national conference for the NZ Federation for Deaf Children.



First of its kind doctoral research into deaf students learning and participation at tertiary education institutes



Dunedin-based Denise Powell has two questions she is trying to answer through her doctoral level research through Griffith

University, Brisbane.

What are the possible barriers to deaf students completing their tertiary education? And what are the solutions?

“The move towards full inclusion in compulsory education has meant that deaf students expect to access tertiary education in the same way as their hearing peers,” says Denise. “While the number of deaf students in tertiary education has increased, research has not kept up with the experiences of these students.

“Knowing and understanding deaf people's experiences in tertiary education can provide valuable information for professionals and programmes that serve these students.”

The research results and findings are expected to be available later this year.

International Exposure to Young Audiologists Unforgettable

New audiologists Ingrid Dekker and Claire Dwyer were helped to Denmark by the Oticon Foundation to take part in the summer camp

Ingrid is effusive about her experience both professionally and personally.

“Hearing about audiological experiences from all over the world, different clinic arrangements and interesting lectures was amazing,” says Ingrid.

She points to a lecture involving taking the client's spouse into consideration when fitting hearing aids.

“This has been extremely helpful in my professional life as a lot of spouses think that if their other half has a hearing aid it means they have their normal hearing restored. The lecture taught me how to deal with these people and how to counsel them with realistic expectations from hearing aids”.



Breaking down isolation barriers by sharing information

The Audiology Department of Rotorua Hospital has been working with the local Advisors on Deaf Children to produce a newsletter for the children wearing hearing aids in their region.

Living in a smaller town means these children have limited access to each other and may be the only child on campus

with hearing aids.

“That is a lonely reality. Our aim is to bring useful information to the children and their families,” says Kirsty Gerlach, Audiologist.

The newsletter introduces team members – to break down the unfamiliarity, gives

updates on changes within the service – for example the Universal Newborn Hearing Screening and how it is meeting community needs, news tidbits, website links to empower families to become informed and active and puzzles and contributions from the children to encourage participation and ownership of the newsletter as their own.

What's Coming Up

The Oticon Foundation Hearing Education Centre Research Seminars, School of Population Health, The University of Auckland
Tamaki Campus, 5.00pm to 6.30pm

- | | |
|-----------------|--|
| MARCH 25 | Urban noise – Representative from Marshall Day Acoustics |
| MAY 27 | Antioxidants and hearing loss – Srdjan Vlajkovic |
| JULY 29 | Update and options for implantable hearing devices – Colin Brown |

Oticon Foundation grant recipients 2008

NEW ZEALAND
AUDIOLOGICAL SOCIETY,
for Dr Martyn Hyde,
Keynote speaker, 2008 NZAS
Conference

UNIVERSITY OF
AUCKLAND, for Dr Dianne
Van Tasell, Erskine Scholar
at Canterbury, to speak in
Auck|and

ROTORUA HOSPITAL
(Kirsty Gerlach), for a
newsletter for families of
hearing impaired children

NATIONAL HEARING ASSOCIATION , to produce an information data base and information packs

PROJECT HIEDI, ongoing funding for implementation of Newborn Hearing Screening and early intervention programme in New Zealand

**AUCKLAND PARENTS
OF DEAF CHILDREN, for
portable sound system**

KELSTON DEAF
EDUCATION, for portable
sound systems

UNIVERSITY OF
CANTERBURY (Eyal
Goel), for research to monitor
potential noise induced
hearing loss in gyms

DENISE POWELL For
Doctoral research

PROJECT HIEDI, for project manager to attend Como Conference on Newborn Hearing Screening

UNIVERSITY OF
AUCKLAND, ongoing
funding for Oticon
Foundation Hearing Research
Centre

INGRID DEKKER, travel grant to attend Summer Camp for young audiologists in Denmark

CLAIR DWYER, travel grant
to attend Summer Camp
for young Audiologists in
Denmark

UNIVERSITY OF
CANTERBURY MELISSA
BABBAGE, attendance
at Australasian Auditory
Neuroscience Workshop
to present initial results
of research into Early
Postoperative Delayed Hearing
Loss Following Vestibular
Schwannoma Surgery.

GEMMA WHITEHEAD,
University of Auckland
Oticon prize for Best Original
and Outstanding Dissertation

how to apply for grants

Applications must include:

1. The name and address of applicant
2. If relevant, the organisation represented and position of applicant within the organisation, plus copies of latest balance sheet and annual report
3. Details of expenditure involved
4. Information about funding you are seeking from any other organisation for this or supplementary projects
5. Overseas travel details where applicable. Please state whether an applicant/s will be returning to New Zealand permanently after the visit is completed
6. How the hearing impaired in New Zealand will benefit from your project/research
7. Information about how you will publicise your project and its results. (We would like you to seek as wide an audience as possible)
8. Details about how you will promote the Oticon Foundation if your application is successful

Applicants applying for project funding should also include:

1. Title of project
2. Summary of project (not exceeding 150 words)
3. Qualifications of applicant relevant to project
4. Aims and design of project, and expected completion date

Applications for grants other than project funding should also include:

1. Details of grant requested
2. Reasons for request

Successful applicants will be required to:

1. Submit a report (five copies) within three months of completion of the project
2. Disseminate results or information from the project to as wide an audience as possible, such as to the bulletins and newsletters of professional groups, hearing impaired and Deaf groups
3. Acknowledge the Oticon Foundation in any reports or publications about your project/research

deadline

Grants are allocated annually.

Applications (together with five extra copies) should be made no later than 31 March in any year. Applicants will be notified whether their grant application has been accepted by 30 June of the same year. Please address applications to:

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WELLINGTON 6141
Phone: 0800 OTICON
E-mail: info@oticon.org.nz

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