Tinnitus mechanisms, assessment and management
AN INVITATION

It is a great pleasure to invite you to attend “Tinnitus Discovery” the first of what is hoped will be more Asia Pacific Tinnitus Symposia. The meeting is a great opportunity for tinnitus clinicians and researchers to come together, inform, learn, and share insights into Tinnitus. The meeting is intended for Otologists, Audiologists, Psychologists, Hearing Therapists, Neurologists, General Practioners, Researchers and anyone who wants to discover the latest state of knowledge and innovation in the field of tinnitus.

The theme of the Symposium is “Discovery”. We are staging this meeting at a venue housing New Zealand’s Maritime history - a history of discovery, journeys and adventure. The venue and hotels are in the heart of Auckland’s Viaduct Harbour, home of great restaurants and tourist activities. While you are in New Zealand there is a wonderful opportunity to discover the sights and adventures that our country is famous for. Auckland is a gateway to exploring the beautiful Bay of Islands to the North, the sandy beaches of the Coromandel to the South and is only a short ferry ride to the Islands of the Waitemata harbour.

We hope that you will have your own tinnitus discoveries and that the journey to the meeting will contribute to efforts to solve the mysteries of tinnitus. So please come and join us to make this a truly memorable event.

Dr Grant D Searchfield
Head of Audiology
The University of Auckland

Prof Peter R Thorne
Chair, Oticon Foundation Hearing Education Centre
Head of School of Population Health, The University of Auckland

HIGHLIGHTS

Discover themes covering mechanisms, medical assessment and management of tinnitus
Discover innovation
Discover information
Discover a forum for shared learning with other disciplines
Discover research networking
Discover Auckland and New Zealand
Ron Goodey

Ron Goodey is an Australian-born New Zealander. He was educated in Auckland and at Otago Medical School. Ron obtained his Australasian Fellowship in Otolaryngology before getting further training in Belfast and in Detroit. He is currently president of the Deafness Research Foundation and an honorary clinical lecturer at the Faculty of Medical and Health Sciences, University of Auckland. In the past he has been head of department at Green Lane Hospital, Chairman of the Dilworth Clinic and an examiner for the Australasian College. His major interests have always been in the ear and hearing and his practice is now confined to medical otology. Principal research interests have been in reconstructive ear surgery, tinnitus, congenital deafness and the establishment of the New Zealand Cochlear Implant Programme. He is chairman of the board of directors of the Tinnitus Research Initiative.

Peter Hanley

Peter Hanley holds a Bachelor’s degree in Biochemistry and a PhD from the University of Sydney. He has spent the past 17 years in various strategy, management, and investment roles. Peter is Director of tinnitus treatment technology company Neuromonics Pty. Ltd., Australia. As Neuromonics’ CEO from 2003 to 2007, Peter oversaw the pre-market development of the Neuromonics Tinnitus Treatment and the Oasis device, its release in Australia, New Zealand, Singapore and the USA, and its clinical validation through formal clinical trials as well as in general private practice.

Myriam Westcott

Myriam Westcott is a director of Dineen and Westcott Audiologists, having joined the practice in 2000. She is an experienced Audiologist, with specialised interests in tinnitus, hyperacusis and acoustic shock injury (ASI) assessment and management, and aural rehabilitation. While working at the Victorian Deaf Society HEAR (Hearing Education and Aural Rehabilitation) Service, Myriam was drawn to the challenge of providing effective tinnitus and hyperacusis management. She had the opportunity at HEAR Service to focus intensively on tinnitus and hyperacusis therapy for five years, co-ordinating the HEAR Service Tinnitus and Hyperacusis Program for most of that time. Myriam is experienced in providing audiological evaluation and therapy for ASI clients, ASI workplace consultancy and regularly lectures in ASI, hyperacusis and tinnitus. She is committed to the research and development of new and innovative approaches to tinnitus, hyperacusis and ASI management, utilising her clinical experience of Tinnitus Retraining Therapy (TRT) and psychological management strategies. Myriam is closely involved with the Tinnitus Association of Victoria, contributing information material for their website and regularly being a guest speaker at their meetings.

Ramesh Rajan

Ramesh is an Associate Professor in the Department of Physiology, Faculty of Medicine, Nursing and Health Sciences at Monash University, Melbourne, Australia. “I am interested in how our brains interpret the sensory information that tells us about the world. My primary area of study is in the auditory system but I also study touch. My laboratory uses two broad techniques to carry out these investigations: neuronal studies in the central nervous system (mainly the cortex) of animals and psychophysical studies in humans. Our studies encompass a range of topics from how cortical neurons process sensory information to how humans understand speech in the presence of competing signals. It is the latter area that links to our interest in tinnitus as we focus on how an increase in internal noise (namely tinnitus) affects the extraction of signals (speech) from external (background) noise.”

William Martin

Dr. Martin is a professor of Otolaryngology/Head & Neck Surgery and professor of Public Health and Preventive Medicine at the Oregon Health & Science University, Oregon, USA. He is a senior researcher in the Oregon Hearing Research Center where he serves as director of the OHSU Tinnitus Clinic and research program, intraoperative neurophysiology and of the nationally recognized Dangerous Decibels program, a creative and aggressive public health campaign to halt the epidemic of noise induced hearing loss in children of all ages. Dr. Martin has twice been awarded the Dr. Frank Cole lectureship in Otology at the Technion in Haifa, Israel and received the OHSU Distinguished Science Educator Award. He is active in eight professional societies, a Fellow of the American Academy of Audiology, the American Society for Neurophysiological Monitoring and served as a scientific advisor to the American Tinnitus Association for 13 years. He is currently Principal Investigator or Co-PI on five grant funded projects and has produced over 400 scientific papers, articles and presentations in the fields of neuroscience, hearing, computational physics and public health. His bachelor’s degree comes from the University of California, Irvine, with honors in research. He then worked his way up the coast through an intercampus doctoral program at the University of California at Santa Barbara where he studied Audiology, linguistics and electrical engineering, then the University of California where he studied medicine, auditory neuroscience and computational physics. His postdoctoral fellowship was in neurophysiology in the Behavioral Biology department at the Technion. Billy is an avid surfer, snowboarder, waterpolo player and coach.
Grant Searchfield

Dr. Searchfield obtained his PhD in Audiology from The University of Auckland where he is currently a Senior Lecturer in Aural Rehabilitation. He is Head of the University’s Audiology Section and undertakes tinnitus research from his laboratory at the School of Population Health. Dr. Searchfield began working with tinnitus clinically in 1995 and was instrumental in the establishment of The University’s Hearing and Tinnitus Clinic in 2001, its move to purpose built premises in 2004 and its subsequent growth. His PhD researched a physiological measure of tinnitus and his current research interests’ centre on the use of sound and auditory training to change tinnitus perception. He has published research papers in diverse areas of tinnitus study including auditory physiology and sound therapy. Dr. Searchfield is a regular contributor to international conferences on tinnitus management, and is an international editorial associate for the Journal of the American Academy of Audiology. He is a member of the Scientific Committee of the Tinnitus Research Initiative and leads a working group focused on the use of perceptual training as a tinnitus treatment.

Paul Smith

Paul F. Smith completed his undergraduate degree in Psychology with 1st Class Honours at the University of Sydney and then went on to complete his PhD in Vestibular Physiology at the same University under the supervision of Professor Ian S. Curthoys. He received the H. Tasman Lovell Memorial Medallion for his PhD thesis and after Post-Doctoral Research at the University of Sydney, moved to New Zealand in 1987 and became a Lecturer in Neuroscience in the Department of Psychology at the University of Otago. In 1995, he moved to the Department of Pharmacology and Toxicology at the University of Otago Medical School as a Senior Lecturer, becoming an Associate Professor in 1997 and Professor of Neuropharmacology (Personal Chair) in 1999. His main research areas are the effects of damage to the inner ear on limbic and neocortical brain regions and the modulation of these effects by drugs. Professor Smith has authored or co-authored 2 books and 240 scientific papers and book chapters. He is on the Editorial Boards of the Journal of Vestibular Research, The Open Otorhinolaryngology Journal, Open Otorhinolaryngology Reviews, Current Opinion in Investigational Drugs and is the Field Editor for Neuropharmacology for the Springer Encyclopedia of Neuroscience. He is also appointed to the Health Research Council Standing Committee on Therapeutic Trials (SCOTT) and the Scientific Committee of the New Zealand Neurological Foundation.

Michael Piskosz

Michael received his B.S. in Communication Sciences & Disorders, B.A. in Psychology from Syracuse University and M.S. in Audiology from the University of Washington. Michael spent 18 months as a clinical audiologist at the University of Miami and 2 years as a clinical audiologist for a private ENT clinic in Hollywood, Florida. He was as a Regional Manager for GN ReSound, New Zealand for 3 1/2 years. For the last 2 years he has been audiologist for GN ReSound, ReSound Global Marketing– HQ (Copenhagen, Denmark). Recently Michael has been involved in Tinnitus product and service development for GN ReSound.

Larry Roberts

Larry E. Roberts is a Professor in the Department of Psychology, Neuroscience and Behaviour, at McMaster University, Ontario, Canada. From 2002-2008 he was group leader of a consortium of laboratories based mainly in Canada that collectively used physiological, psychoacoustic, brain imaging, and computational methods to investigate the neural basis of tinnitus. His research is guided by the hypothesis (set out by Eggermont and Roberts, Trends in Neurosciences, 2004, 27:676-682) that tinnitus occurs when abnormal synchronous neural activity develops in regions of the auditory cortex that have been deprived of input from the ear by hearing loss. Dr. Roberts directed the MEG laboratory of the Down Syndrome Research Foundation in Vancouver from 2003-2008 and has held Guest Professorships at the University of Tuebingen and the Humboldt University (Berlin). In 2004 he was a faculty member in the Summer Institute for Cognitive Neuroscience at Dartmouth College (USA). His research is supported by the Canadian Institutes for Health Research, the Natural Sciences and Engineering Research Council of Canada, the American Tinnitus Association, and the Tinnitus Research Initiative.

Peter Thorne

Professor Peter Thorne is in the Section of Audiology at the University of Auckland and is currently the Head of the School of Population Health. He completed his PhD at the University of Auckland and post-doctoral studies at the University of Auckland and at the Kresge Hearing Research Institute, University of Michigan, USA. His research is in the area of sensory neurobiology particularly inner ear homeostasis and the influence of noise exposure and aging on hearing. He is the Chairman of the National Foundation for the Deaf and is on the Board of the Deafness Research Foundation and Auckland Medical Research Foundation and chairs the Implementation Advisory Group in the National Screening Unit which advises the Ministry of Health on the implementation of a national programme of newborn hearing screening and early intervention in New Zealand.
KEYNOTE SPEAKERS

Jinsheng Zhang

Dr. Jinsheng Zhang is an Associate Professor in the Department of Otolaryngology – Head and Neck Surgery at Wayne State University School of Medicine, Detroit, Michigan, USA. He is the director of Laboratory of Auditory Prostheses Research. He serves on the board of the Lions Hearing Institute of Michigan. Dr. Zhang’s research interests are to develop prostheses to treat tinnitus and improve hearing. In tinnitus research, his group has been pursuing suppression of tinnitus and tinnitus related neural activity through electrical stimulation. Several types of electrical stimulation, such as somatosensory, cochlear, and auditory brain stimulation, have been used to suppress the percepts or reduce the loudness of tinnitus in patients. Due to lack of understanding of the mechanisms underlying tinnitus and suppression of tinnitus, electrical stimulation has not been well established as a reliable therapy for treating tinnitus. In his animal model, Dr. Zhang and his team take the technical approaches of combined electrical stimulation, behavioral testing, electrophysiology at single- and multi-unit levels, and mapping of neural or neurotransmitter pathways. He and his team are currently developing an animal model of Auditory Cortical Electrical Stimulation (ACES) to suppress tinnitus. The immediate goal of this research is to identify targeted brain areas and neural pathways for stimulation and to determine optimal stimulation strategies to effectively suppress tinnitus and its neural correlates.

Cynthia Darlington

“With Professor Paul F. Smith, I co-direct the Vestibular Research Group at the Department of Pharmacology and Toxicology, University of Otago Medical School. We are interested primarily in the function of the vestibular system, mechanisms of recovery from vestibular damage and the development of treatments for vestibular disorders. Current research projects include the study of (1) changes in GABA and glutamate receptors in the vestibular nucleus after damage to the inner ear and their downstream biochemical effects (with Dr. Arata Horii, Dept. of Otolaryngology and Sensory Organ Surgery, Univ. Osaka Medical School, and PhD students Andrew Sansom and Catherine Gliddon), (2) interactions between the vestibular system and the hippocampus (with Dr. Yiwen Zheng, Dr. Arata Horii, Dr. Ping Liu, Dr. John Ashton, and also Dr. David Bilkey of the Dept. of Psychology), (3) the effects of aminoglycoside antibiotics on the inner ear, and (4) interactions of stress hormones with the vestibular system.”

SYMPOSIUM SPONSORS

PRIEMIER SPONSORS

The Oticon Foundation Hearing Education Centre
The University of Auckland
Otago University

SPEAKER SPONSORS

TRI Auditory stimulation Working Group
L Roberts
D Bosnyak

National Foundation for the Deaf
W H Martin

GN ReSound (Int)
M Piskosz

Oticon NZ
J Zhang

ASIA & PACIFIC TINNITUS SYMPOSIUM
NEW ZEALAND MARITIME MUSEUM - AUCKLAND 11 - 12 SEPTEMBER 2009
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<tr>
<td>8.00</td>
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| 9.00    | Welcome and Overview
Dr Ron Goodey (New Zealand)                                         |
| 9.00 - 10.30 | **Discover Mechanisms** (Session Chair - Dr Ron Goodey, New Zealand) |
| 9.00 - 10.30 | Epidemiology of Tinnitus
Dr David Welch (New Zealand)                                      |
| 9.00 - 10.30 | Neurophysiology of the Auditory System
Assoc Prof Ramesh Rajan (Australia)                             |
| 9.00 - 10.30 | NIHL and Tinnitus
Prof Peter Thorne (New Zealand)                               |
| 10.30   | Break & Trade Displays                                               |
| 11.00   | Acoustic Shock Injury
Ms Myriam Westcott (Australia)                                    |
| 11.00 - 12.45 | Animal Models of Tinnitus
Assoc Prof Cynthia Darlington (New Zealand)                     |
| 11.00 - 12.45 | Neural Mechanisms of Tinnitus
Prof Larry Roberts (Canada)                                   |
| 11.00 - 12.45 | Tinnitus and Pain
Dr Jane Magnusson (New Zealand)                               |
| 12.45   | Lunch & Trade Displays                                               |
| 1.30    | **Discover Medical Treatments** (Session Chair – Dr Robert Gunn, New Zealand) |
| 1.30 - 3.00 | Medical Evaluation and Management
Dr Ron Goodey (New Zealand)                                      |
| 1.30 - 3.00 | Promising Medications
Prof Paul Smith (New Zealand)                                   |
| 1.30 - 3.00 | Transcranial Magnetic Stimulation
Dr Cathy Stinear (New Zealand)                                 |
| 3.00    | Break & Posters                                                      |
| 3.30 - 5.00 | Electrical Stimulation
Assoc Prof Jinsheng Zhang (USA)                                |
| 3.30 - 5.00 | Attention and Tinnitus
Ms Kim Wise (New Zealand)                                      |
| 3.30 - 5.00 | Complementary Medicines
Dr Natalie Walker (New Zealand)                                 |
| 5.00    | Posters                                                              |
| 5.30    | Maritime Museum Visit and Cocktail Reception                         |

**FRIDAY 11 SEPTEMBER**

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<tr>
<td>5.00</td>
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<td>Maritime Museum Visit and Cocktail Reception</td>
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**SATURDAY 12 SEPTEMBER**

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<tr>
<td>9.00 - 10.30</td>
<td><strong>Discover Audiological Assessment and Management</strong> (Session Chair – Prof William Martin, USA)</td>
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| 9.00 - 10.30 | Research Design for the Study of Tinnitus
Prof William Martin (USA)                                      |
| 9.00 - 10.30 | Assessment of Tinnitus Characteristics and Severity
Dr Grant Searchfield (New Zealand)                             |
| 10.30    | Break & Trade Displays                                               |
| 11.00    | Sound Therapies and Instrumentation
Dr Grant Searchfield (New Zealand)                             |
| 11.00 - 12.45 | The Neuromonics Treatment
Dr Peter Hanley (Australia)                                   |
| 11.00 - 12.45 | ReSound Tinnitus: An innovative tinnitus sound generator device
Mr Michael Piskosz (Den/USA)                                  |
| 12.45    | Lunch & Posters                                                      |
| 1.30    | **Discover “The Big Picture” (Session Chair – Prof Peter Thorne, New Zealand) |
| 1.30 - 3.00 | Managing the Whole Person
Prof William Martin (USA)                                     |
| 1.30 - 3.00 | Multidisciplinary Team Approach to Tinnitus
Dr Georgina Shakes (New Zealand)                              |
| 3.00    | Break & Trade Displays                                               |
| 3.30 - 5.00 | Panel discussion. “Counselling - What is it, Who does it and How”
Jane Magnusson (Chair), Georgina Shakes, Grant Searchfield, William Martin |
| 3.30 - 5.00 | Panel discussion. “Asia Pacific Tinnitus Network – Opportunities Untapped?”
Ron Goodey (Chair), Ramesh Rajan, Jinsheng Zhang, Paul Smith, Larry Roberts, Myriam Westcott |
| 5.00    | Mix and Mingle                                                       |
| 5.30    | Mix and Mingle                                                       |
# SYMPOSIUM REGISTRATION & GENERAL INFORMATION

## REGISTRATION

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## REGISTRATION FEES

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<th>Standard (payment received after 11 August 2009)</th>
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<tr>
<td>Full</td>
<td>$500</td>
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<td>Student (full time only)</td>
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Please note the total attendance available at the Symposium is limited. We recommend you register early to avoid disappointment.

## PAYMENT*

- Please find attached a cheque payable to: University of Auckland
- Please charge my credit card: □ Visa □ Mastercard
- Cardholder’s name: Expiry Date (MM/YY):
- Card number: Authorised Amount in NZ$:
- Signature: Date: / /

*Cancellations will be accepted and refunds made before 31 August 2009

## GENERAL INFORMATION

### SYMPOSIUM VENUE

The New Zealand National Maritime Museum is situated at the Viaduct Harbour, corner of Quay and Hobson Streets, Downtown Auckland.

### PARKING

Parking is available at the Downtown Car Park with access from Customs Street West. There is an overhead walkway that connects this carpark to the pedestrian precinct outside the Museum.

### AT THE SYMPOSIUM

Your symposium registration pack will be available for collection from the Registration Desk on Friday 11 September from 8.00 am till 7.00 pm and on Saturday 12 September from 8.00 am to 12 noon.

### COCKTAIL FUNCTION

At the Maritime Museum, included with the symposium registration, Friday 11 September at 6 pm.

Will you be attending? □ Yes □ No

### SPECIAL REQUIREMENTS

Please give details of any special diet, special needs or mobility assistance required on your registration form.

### SYMPOSIUM ADMINISTRATORS

If you have any queries about the symposium arrangements, please contact: tinnitus@auckland.ac.nz

### YOU & YOUR PRIVACY

The Privacy Act 1993 provides that, before your name and address details can be published in the list of delegates either for distribution to fellow delegates or any other party, you must give your consent. If the box below is NOT ticked it is assumed that you agree to have your details published to the trade. If you DO NOT wish your details to be included in the list of delegates, please tick this box: □