

CICADA BUZZ

MAY BBQ DAY

Another Great CICADA Day

The criteria to be eligible for a cochlear implant has expanded over time, so now it's becoming more common for clients with single-sided deafness to have a cochlear implant. It's been quite interesting to observe this, because sometimes people who are single-sided deaf actually have more trouble switching on to the sound from a cochlear implant because the brain sometimes is a bit stubborn and just wants to stick with what it knows. Auditory training has been found to really help those people even more.



Robyn Shakes Managing Director of MEDEL in Australia

Approximately 70 people enjoyed our BBQ day in May with Rebecca Claridge from MEDEL presenting on Auditory Rehabilitation. There are so many valuable tips in Rebecca's presentation for improving listening skills, for everyone! Here are some of them:

"Research is showing us that structured rehabilitation programs can facilitate better outcomes for adults who use hearing technology.

Auditory training - What is it and what can you do to improve your skills? When we are talking about auditory training, we sometimes use these two terms "passive" and "active". Passive are things like when you watch TV with or without captions, maybe you listen to music or just listen in to conversations. But active auditory training is so much faster. Active auditory training is focused work with a therapist or communication partner.... even on your own!



Presenter Rebecca Claridge

It's important to start with easier activities, easier tasks first. I know that sounds really obvious - but how many of us have decided to take on a new skill, think this is easy and jump further ahead only to fail. So start easy and gradually make things more challenging for yourself and gradually make changes more challenging for your brain.

This is a very simple three-step method to auditory training. The first step is: listen first. What this means is you are teaching your brain through listening. You listen to some words, sentences or sounds, and then you say them. That's your second step: say. When you are saying them, you are also teaching your brain. You are teaching your brain through repetition provided by your own voice. Then you listen and choose. What that means is you are going to listen to somebody say that word, that sound, that sentence, and you're going to test your brain by selecting it, repeating it or finding it.

Communication therapy is where we think about strategies to improve the listening environment, strategies for the cochlear implant user to do and strategies for your communication partner to do. The first topic I wanted to talk about is improving your listening environment, strategies that we can do to improve our listening environment. Firstly, be aware of noise in your environment. Make some changes that help you to minimise the noise in the background. Maybe look for where the air conditioning unit is and move away from it. If there's an open window next to a noisy road, close it.

Next one is find the light. Get the person that you are speaking to stand with the light on their face. That makes it easier for you to understand what they are talking about.

The next one is a tricky one: resist distraction. Listening requires concentration. So if you can see aspects of your environment that are likely to distract you, turn your back on them. Face away. If a cafe or restaurant has a booth, that's a great way of minimising distraction. There's not a lot to look at in the booth and usually the acoustic environment is much better in a booth."



The MEDEL Team

Many thanks to MEDEL for sponsoring this event and if you missed it, you can watch the full presentation live, with captions, on this link:

<https://vimeo.com/pascoeberry/cicada-live>

State CICADA Associations

New South Wales

CICADA AUSTRALIA INC.

Secretary: Judy Cassell
PO Box 5028
South Turramurra NSW 2074
Email: jcassell6@bigpond.com

Queensland

CICADA QUEENSLAND

Secretary: Shirley Edwards
Email: info@cicadaqld.com.au

Shirley Edwards: shirley@hotchipz.com
Penny Phillips: pennyphillips1@bigpond.com

South Australia

CICADA SOUTH AUSTRALIA

Email: contact@sacic.com.au
Ph: 08 8379 4500 (Nina)

Western Australia

CICADA CLUB W.A. INC.

Chairperson: Edna Chapman
Email: eknit57@hotmail.com
Ph: 9401 8164

Treasurer: Ted Ivey
Email: ted2laura@gmail.com
Ph: (08) 9371 5650

Secretary: Jane Humby
Email: legend.26@bigpond.com
Phone: 9733 2447

Northern Territory

CICADA DARWIN

Coordinator Chris Blackham-Davison
Email: Deafncrazy@gmail.com
SMS: 0427 897 170

Canberra

For information contact
Glenn Vermeulen: glenn.vermeulen@gmail.com
SMS: 0427 897 170

Hook Up Online And Share Your News

Please visit us at www.cicada.org.au
Or our Facebook page Cicada Australia Inc.

Darwin friends now have their own
Facebook page Cicada Northern Territory

Donations over \$2 to CICADA are
tax-deductible.

If you would prefer to receive this
newsletter by email, please send your
details to suewalters@cicada.org.au

Presidents Message

Welcome to Winter!



A very special piece of news to report is that the new TOY STORY 4 movie has a character wearing a cochlear implant!! How great is that, for kids especially! As I see it, it is all in the realm of "normal" now...No need to feel you are a robot (ha ha) and we should be proud to show off our sound processors and tell people about them, to create awareness of hearing loss in our community.

Aged care centres and hospitals are still in need of greater awareness around clients with hearing loss. Deafness Forum and Australian Hearing released an App called "Happy Hearing". The App has been made by corporate volunteers from Atlassian and features "How to talk to someone with hearing loss" in a series of cartoons and includes information about hearing aids. A section on cochlear implants is soon to be added to this App which will help to inform the general public and carers.

Deafness Forum also encourages you to look at their website, for free resources for hearing assistance training, designed especially for carers in aged care. Please have a look and provide any feedback or comments
<https://www.deafnessforum.org.au/resources/training-resources-in-hearing-assistance-in-aged-care-services-and-hospitals/>

The CICADA Committee continue to hold morning teas every month from February to October at Gladesville and even in June we were fortunate to sit outside in the sunshine and enjoy the autumn colours of the liquid ambers. I am indebted to our devoted committee members who always provide a great spread of delicious food and a warm welcome. We had visitors

from Melbourne at our May morning tea, which was a nice surprise. They enjoyed the gathering of recipients and friends and reported how valuable it is to have a support group.



Sue receives her OAM from Governor, Margaret Beasley

CICADA gatherings are a great opportunity to meet other people with implants and just ask lots of questions. The cochlear implant is pretty widespread all over the world, but there are still a lot of people who don't know much about it. CICADA's mission is to keep informing people about cochlear implants and to help recipients make the most of their hearing. It can be a difficult journey. People with implants all understand that sometimes you just need a bit of support. That support can go a long way. Our presentation from MEDEL on Auditory Rehabilitation at our May BBQ day was a great success. See the report in this issue.

Our next BBQ day will be a treat for all, a SAMBA percussion workshop! Everyone has a chance to participate and it should be a fun day for all. Our last percussion event in March 2015 was a great success.

COCHLEAR Asia-Pacific are very excited to announce the launch of the new ANZ Cochlear.com website, which went live on June 27 2019. The website refresh joins a range of initiatives that Cochlear has developed to assist candidates in Australia and New Zealand. These include the work of the Engagement Team (free information service), candidate & recipient events, and Cochlear HQ tours (Sydney and Brisbane). Visit www.cochlear.com/au

Australian Hearing has changed their name to...HEARING AUSTRALIA!! So look out for the new branding at the local AH centres and their communications. They have launched a new website and if you are AH eligible and looking for replacement parts, go online to www.hearing.com.au/ and type "CI Replacement parts" in the search box. You will find the CI CLIENT ORDER FORM to order online.

FIRST TELEPHONE CONVERSATIONS in 70 YEARS with NUCLEUS N7

Most of our readers will know Neville Lockhart, former CICADA committee member and still regular attendee at our Gladesville BBQ functions and CICADA Illawarra events. His many contributions have included:

- * CICADA Magazine, subsequently HQ Magazine, that reached 28pp and 20,000 circulation
- * CICADA Guide to Hearing Loss and Hearing Solutions now in a second edition of 90pp
- * Helping Sue Walters and Tina Allen guide the Bill Gibson biography to completion
- * Providing numerous monthly items from worldwide sources for the CICADA website (ongoing).

However few will know that he has not been able to use the phone unaided in his 72 years, until he upgraded earlier this year to the N7 sound processor linked to the iPhone. Neville tells us:

I am finding the N7 excellent using my iPhone with its FaceTime. And even without a face to lipread I am managing well enough with familiar voices, even those with android phones, because of the direct coupling from my iPhone to my processor.

The benefits were well demonstrated when he went on a hastily-arranged trip to the UK to see his brother and his wife who were both in hospital and to also visit other family, friends and familiar places. He recalled:

A highlight was a 5 minute conversation with (wife) Judy when I arrived in my home town thousands of km away, despite FaceTime not being available for whatever "international roaming" or other reason.

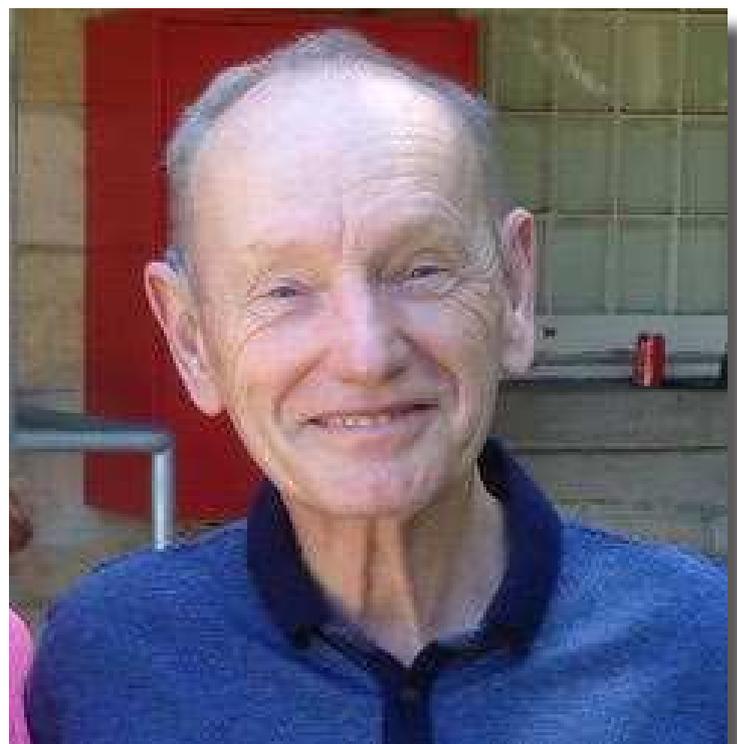
After coming back to Australia, I have had conversations with my niece in Scotland using Judy's iPad FaceTime with its bigger screen, yet this is not paired to my N7. Only my own iPhone is paired and when I use it with or without FaceTime, Judy obviously cannot hear the conversations. It is mind-boggling to have Judy asking me "what is he/she saying"; thats the reverse of what I have been asking her for years!

Neville advises that he still has psychological issues to overcome especially the unfamiliar and unknown. Bear in mind he was born deaf, had no hearing at all for 45 years, and never used the phone. He was fortunate that fax machines, then SMS then emails then personal assistants helped cope with his increasing communication responsibilities as he progressed in his career from scientific research into technology and people management. He received the Freedom implant after retirement and wondered what "might have been" if that had been before retirement. But no, colleagues were only half joking that he was fortunate to not actually hear the crap that went on!

His confidence was helped by understanding the first unfamiliar and unexpected voice in the early stages of the N7. That turned out to be a guest speaker, travelling down from Sydney to a meeting Neville had organised, who had ignored the SMS only flag. He has also understood technology colleagues on his iMac computer FaceTime, which (presumably) is also not paired to his N7.

Neville notes: The technology advances can be a mixed blessing, for example my old iPhone was only used for SMS and my new one (for compatibility with the N7) has all the bells and whistles. These can be hard for the inexperienced to cope with. I would prefer a simple phone that just does calls and SMS! I do hope to avoid marketing calls, messages/instructions telling me to press this or that number to proceed, or trying to make sense out of call centres in India, Phillipines etc.

He also says the much appreciated benefits of the N7/iPhone will not change him: *In the past I could count on two hands the average number of weekly SMS messages I sent/received; email was my main communication pathway. There are certainly now more SMS and welcome voice exchanges on top. But 70 years of anti-social relationships with phones will ensure I go nowhere near the mobile phone addiction that some people have!*



Congratulations on Awards to...

Professor Jim Patrick AO

Macquarie University has awarded Professor Jim Patrick AO an Honorary Doctorate for his service to the field of hearing and cochlear implants.

He is recognised as a world authority on cochlear implants and is one of the original engineers who pioneered the hearing device. His accolades include having the Jim Patrick Audiology Centre named in his honour at the Royal Institute for Deaf and Blind Children and inclusion in the Australian Institution of Engineers Top 100 Most Influential Engineers.

Jim Patrick has supported and encouraged the development of CICADA since our incorporation in 1984. We thank him for his ongoing support and congratulate him on his Honorary Doctorate.



RIDBC Audiologist Kirsty Gardner-Berry OAM

In the recent Queen's Birthday Honours, RIDBC Audiologist Kirsty Gardner-Berry was awarded an Order of Australia Medal (OAM) for services to Audiology.

This award recognises the significant contribution Kirsty has made across SCIC, NAL, Hearing CRC, newborn screening, electrophysiology testing, research and the Audiology industry more broadly over a period of more than 20 years.

Kirsty is a recognised world leader in ANSD (Auditory Neuropathy Spectrum Disorder) a topic in which she completed her Ph.D in 2011. She continues to be actively sought out by parents and the hearing sector more broadly for her expertise in this area.

Captioned Movies at Roseville Cinema

In May this year my sister and I were fortunate to be part of the launch of Open Caption Films at Roseville Cinema. As we are both hearing impaired it was a treat to be able to see a movie confident that we wouldn't miss any of the dialogue. The launch was organised by Uniting in conjunction with Roseville Cinema.

We saw "All is True" a historical drama about William Shakespeare, starring Kenneth Branagh, Judi Dench and Ian McKellen. As Kenneth Branagh is not an easy actor to lipread, the captions were very helpful to us in following the dialogue. Even though many theatres are now looped and provide several options for those with a hearing disability, the open captions were fantastic and we didn't miss a word.

We're hoping that Uniting and Roseville Cinema continue to offer this wonderful service.

Anne Davis

For more information on captioned movies at Roseville contact

www.roseville@cinemas.com.au



Dedicated Open Caption screenings at Hoyts

By Andrew Watson

Many deaf and hearing-impaired people rely on closed captions or subtitles when watching movies or other videos. While most television stations and streaming services now provide closed captions or subtitles, accessibility for people with hearing loss is woefully inadequate at cinemas.

The larger cinemas in Australia sometimes provide a closed captioning device called a 'CaptiView', which is a large bulky piece of equipment that you put in the drink holder and awkwardly place in front of you. During the movie you have to constantly glance away from the screen at the device,

which displays a line or two of text at a time in glaring green LED. It means you barely get to watch what's on screen.

And that's assuming the device is working, which it often isn't. And even when it is, up to half of the dialogue is usually missing.

It's simply not good enough. We want open caption screenings in cinemas, where the closed captions are displayed on the big screen, just like on televisions or streaming services.

Village Cinemas has begun making Open Captions screenings available, which we gladly welcome. Their biggest rival, **Hoyts, seems to have no plans to do the same and are refusing to respond to requests for comments.**

It appears that Hoyts is afraid Open Captions screenings would scare off patrons from attending films. We believe this is patently absurd, given their popularity overseas, the popularisation of animated gifs with captions, and the widespread habit of watching muted videos on your phone in public. Captions and subtitles are ubiquitous today, and are widely accessed even by people without hearing loss.

This is also not to suggest we demand every cinema screening be an open caption screening. But we do demand that at the very least, there are dedicated screenings.

Hoyts must provide accessibility for the approximately 3.6 million Australians with hearing loss - 14.5% of the population. **That's just about one in every seven Australians. This is not some niche, rare condition** - despite what Hoyts may think.

We want to show that open caption screenings are not to be feared, and that even people without accessibility needs would welcome open caption screenings.

To show your support visit – www.change.org/p/hoyts-cinemas-australia

The Future of Captel Phones

Captel phones may be made redundant due to government cuts in funding for captioning. If you use this service or are interested in it, the following link has more information about the government's decision and the future of Captel phones in Australia.

<https://www.communications.gov.au/departamental-news/new-provider-national-relay-service>

Question/Answer

The following question re the NBN was received recently from a Cicada member and was answered by Andrew Stewart

We have received our plan for NBN and I would be grateful for your advice. I have a big button landline corded phone which I have rented from Telstra for about 8 years so I will cancel the rental and return it to Telstra as I want to remain at iiNet for my computer.

It was recommended I use my landline when I upgraded to Nucleus 7 and it has been very good especially using it with telecoil on my remote control. We are keeping our landline as my sister does not use a mobile. I am wondering if you would be able to advise whether to purchase a corded or cordless phone, my choice at the moment is for a corded phone. I looked at Australian Hearing this morning and I did not see any there that I wanted. Most had answering services or were cordless.

Regards Judith.

A range of phones are available – have a look at <http://accessibletelecoms.ideas.org.au/telecom/category>

You can choose the access features you want, as well as see all the cordless and landline phones on the market.

Personally, I like the Uniden and the Panasonic cordless phones.

There are 15 landline phones, and 12 cordless phones.

Also, in the search filter, you can click on the feature "Hearing Aid Telecoil Coupling" which will reduce the number to 11 of each type.

When you get the pictures of the phones, click on the phones for more information.

Kind Regards
Andrew Stewart
Managing Director
andrew@hearconnect.com



How can you access the service?



Click on Accessible Telecoms at www.ideas.org.au.



Call IDEAS freecall on 1800 029 904



Send an SMS to 0458 296 602



Chat to us at www.ideas.org.au



Fax (02) 6947 3723

Monday to Friday 9am to 5pm
(in all States and Territories).

ACCESSIBLE TELECOMS

A new service for people with disability



Discover which phone is the right fit for you and learn how to use it.

Click on Accessible Telecoms at www.ideas.org.au



ACCESSIBLE TELECOMS



Accessible Telecoms is a free service developed by ACCAN, and is delivered by IDEAS through their existing call centre and website.

The project is funded by the NDIS.

What is Accessible Telecoms?



- Accessible Telecoms is a nationwide disability telecommunications information and referral service and is funded by the NDIS.
- It provides information about the accessible features available in telecommunications products and equipment suitable for people with disabilities.
- Find out which mobile, tablet, landline device or phone accessory will suit you best, and where training for the equipment can be found.

Learn more about the devices you are using

Do you want to get the most out of your devices?

Would you like to learn more about all the features on your mobile phone?

Looking for the right device that works for you?



At Accessible Telecoms, you can learn more and find the right training sessions to suit the devices you use.



If you have difficulty speaking to people when using a phone, the National Relay Service (NRS) can help you.

Contact Accessible Telecoms to find out how.

CONGRATULATIONS

CICADA member **Lindy Crocker** was invited to Warsaw in Poland for the 5th "Beats of Cochlear" music festival from July 8-10 this year. Lindy's audition piece was Dvorak Slavonic Dances on piano.

That is such exciting news, best wishes to Lindy for her performance. It is remarkable that some implant recipients can achieve good music discrimination to perform at this level.

Received from Lindy as we were going to print.

"Sue I had a wonderful time and a very positive experience sharing with so many other recipients. There were 200 applicants and 19 selected, 4 of those in my age group. My item wasn't in the final concert but we were invited on stage and presented with our 5th Beat of Cochlear trophies. . Such an encouraging and uplifting time, Cheers, Lindy"



Seatbelt covers showing emergency medical information prove a viral hit

By Andie Noonan

A simple idea from a mother concerned about her child's safety has become an overnight success.

Key points:

- Natalie Bell said she made the seatbelt covers out of concern for her daughter's safety
- She has received thousands of orders from around the world
- The covers can be fastened to other things, like school bags

Victorian mother of five, Natalie Bell, posted photos online of a seatbelt cover she made showing her daughter's medical information in the event of a crash. The post went viral and within days, she had thousands of orders for the covers from around the world. The covers, which are made with Velcro so they can be fastened to seatbelts or a school bag, have bright-coloured text so they are easily seen.

Ms Bell said she made her first cover because she was concerned about what might happen if her daughter Shae was in an accident and medical staff did not know she was unable to have an MRI because she had a cochlear implant. "It's a safety thing ... because anyone can be a first responder at the scene of an accident," she said.

"So having the details and they're clear, they're noticeable, it's the first thing you'll see when you open up that car door."

The Beaconsfield Upper small business owner has made other things for Shae, who lost her hearing when she was a baby. She has also made an Auslan clock, with pictures of hands doing sign language, to help her feel more included.

Ms Bell said she was shocked by the response. **"Overnight my phone did not stop,"**



Natalie Bell's daughter Shae was the inspiration behind the product. (Supplied: Natalie Bell)

Toy Story 4 creators praised for inclusivity after featuring boy with cochlear implant

June 2019 Evening Standard

Parents said their children were overjoyed when they learned of the existence of the character. Disney said the character came about because a crew member, whose own son is hard of hearing and wears an implant, was keen to include it. More than 5,500 youngsters in the UK wear a cochlear implant - a device that replaces the function of the damaged inner ear giving deaf children the gift of hearing, according to figures from 2018. Social media has been awash with praise for the film.



One Twitter user wrote: "For about a year now, I've been babysitting a child with cerebral palsy who has a cochlear implant. "The fact that Toy Story 4 has included a child with a cochlear implant is such a big win for inclusion. "Thank you for this empowerment, Pixar."

US philanthropist Jay Ruderman, whose foundation focuses on the inclusion of people with disabilities, said: "Great to see Disney Pixar portraying a more diverse & inclusive classroom in Toy Story 4 by featuring a child with a cochlear implant. Representation & visibility of diversity is so important, especially for our children."

Tours of Cochlear Headquarters

Have you ever been interested in how the Cochlear Implant devices are made? This is your chance. You can have a tour at Sydney Cochlear Headquarters, 1 University Ave, Macquarie University, on Fridays 10.00 am to 2pm

If you are interested, register through the following link:
<http://bit.ly/CochlearHQ Tours>
See link for monthly availability

HEARING AWARENESS EXPO IN TAREE 29TH-30TH AUGUST

QUOTA INTERNATIONAL are celebrating 100 years this year

This volunteer community organisation have for many years supported all sorts of causes and especially rallied to raise awareness of hearing loss. They have raised funds for various deaf groups and schools over the years and also have a hearing aid bank for second hand hearing aids.

Taree QUOTA CLUB are holding a 2 day expo at the Taree Central shopping centre 29th-30th August. There will be free hearing tests, a childrens table for colouring in, information on hearing loss and hearing devices and a friendly bunch of QUOTA ladies to talk to about how you can get help.

If you live close to Taree, please come along and support this wonderful group.

CICADA Australia Inc.



Alan Edwards and Torben Albaek at the July morning tea.

MORNING TEAS

Held on the first Thursday of the month at Gladesville from 10.30 to midday

1st August; 5th September; 3rd October.

BBQs and Guest Speaker/s

Sundays at Gladesville from 11 am to 3pm

18th August; 10th Nov - AGM



Peter Hayden and Roy Smith at the July morning tea

In the next few weeks, Cicada will be posting out the annual raffle tickets. If you would prefer not to receive the raffle booklet, please advise Judy Cassell – email – jcassell6@bigpond.com or snail mail to **PO Box 5028, South Turramurra, 2074**. If you have previously indicated that you would prefer not to receive the raffle booklet, this information is on our database, so you do not need to re-advise. Thank you in advance to those who prefer to give a donation in lieu of purchasing raffle tickets.

Support Groups

Illawarra

Another BBQ event that continues to surprise! (23rd June)

It seems the dance to the weather gods has worked yet again! Despite the forecasted cold and rain we had instead a beautiful sunny day (although at times still a little cold).

Thank you to the 17 people who did show up to enjoy the food and a warm sausage sizzle for lunch.

Highlights include:

Seeing some new faces to the group, welcome!

Several members jumping in to help trouble shoot wireless accessories challenges.

Some sharing their experiences about the NDIS (National Disability Insurance Scheme).

Young kids showing off their 'hoverboard' skills, they sure went flying along the footpaths.

And others just enjoying the social catch up.



Tom Steel and Irene Fraser at the Illawarra Live Steamers

As always, I personally do appreciate everyone who chipped in to help with the running of the event as it makes my trips to/from Sydney that much easier! A huge thank you!

See you next time. David

Updated Dates & Locations

Sunday 8th September Windang Picnic Parks

Sunday 27th October Shellharbour Pool

Sunday 1st December Windang Picnic Parks Xmas Party

For further details contact

David Romanowski. Mobile: 0432 715 691

Email: dr930@uowmail.edu.au

Newcastle and Hunter Valley

Meetings continue to be held on the **second Wednesday** of **EVEN** months.

**14th August 9th October
11th December**

For Information contact

Moira Havard - moirak@bigpond.com

Alison Gron - 4926 8100

Northern Rivers

Our mid year luncheon was well attended. It was a lovely social affair with lots of conversation, laughter and delicious food. Everyone had a great time

It really is a blessing to be able to come together in, a safe environment, where we can support and encourage one another, and share in the ups and downs of our unique cochlear implant journeys.

A big thank you to everyone for making the day so special. Also, thank you to Seacoast church for providing us with such great facilities.

Our next meeting will be held 29th August. 10.00 am at Seacoast church Ballina



For further information contact:-

Sheliya Van Buggenum -

sheliyavan@yahoo.com or

Phone or Text 0422524284

OR Phone **Lismore SCIC Office** on

1300 658 981

Taree-Port Macquarie

For information and details of the groups activities please contact: -

Robyn Herps -

robynherps@westnet.com.au

Phone SMS 0428 688 612.

Western Sydney

We continue to gather in the upstairs Café area of Penrith RSL, Tindale Street and are currently trying for access to a room that will be quieter with better acoustics for the hearing impaired. There is plenty of street parking available, including for the disabled, with lifts or escalator to the upstairs area. 10am start. On the first Tuesday of the month.

For further details contact

Sean Sewell on Mobile SMS only

041 5205 877

Judy Tutty - Co-coordinator

043 704 9452

Technology Update

This engineer is working to close the loop in bionic

June 2019 create digital

Future medical devices could cut out the need for external interventions by using the body's own electrical signals to predict problems and help the nervous system keep them in check. Almost all bionic ear, bionic eye, epilepsy control and brain-computer interface devices must be tuned by a medical specialist to deliver the right level of electrical stimulation to patients' nervous systems. This is known as open-loop control. Closed-loop control systems allow devices to tune themselves in response to electrical signals produced by the patient's body.

For example, a bionic ear could automatically adjust stimulation levels to control the volume heard by a patient, or an implant could monitor brain activity for signs of an impending seizure and stimulate the brain in a way that steers it away from the seizure state. "Our own bodies have these closed-loop control systems, but these systems can fail with disease or injury, which is why an artificial system is so appealing," said Professor David Grayden, an electrical and electronic engineer and computer scientist based in the University of Melbourne's biomedical engineering department. As the son of a linguist, Grayden developed an early fascination with the mechanics of language. So much so, that during his electrical engineering degree he took linguistics as a non-technical elective. He later combined the two disciplines during a PhD in speech recognition using artificial neural networks. This flowed into a fellowship at the Bionics Institute, where Grayden developed sound processing strategies for cochlear implants to help bionic ear users understand speech in noisy environments.

He now focuses on understanding the language of the nervous system, which uses electrical signals to communicate what is happening in the body. Like spoken language, the nervous system has a wide range of dialects. Grayden said that one of the greatest challenges faced by medical bionics researchers is the complexity of the human brain and nervous system, which can vary greatly between patients. "A stimulation strategy for one person might be completely inappropriate for another who has the same condition," he explained.



Bad Hearing Can Shrink Brain

June 2019 Newsmax Health

A Norwegian Institute of Public Health study of more than 50,000 subjects ages 20 to 101 showed significant associations between hearing loss and mental health. The links appeared to be stronger for younger and middle-aged adults than for older adults, suggesting that the functional loss from hearing decline may be more psychologically challenging for a younger person. A study published in the journal *JAMA Otolaryngology — Head & Neck Surgery* indicated an association between hearing decline and depression. Scientists reviewed data from a large survey of more than 18,000 adults age 18 and older, and found that as hearing decline worsened, so did symptoms of depression — though the cause-and-effect relationship was unclear. Depression is a common emotional response to any kind of loss. It can interfere with a person's work and social life and lead to further mood alterations such as anger, anxiety, and self-reproach. These psychological reactions can trigger biochemical alterations in the brain, including diminished neurotransmitters such as serotonin and norepinephrine. Many antidepressant medications increase the effectiveness of these neurotransmitters. Hearing loss not only increases risk for mood changes, but cognitive decline as well.

Dr. Frank Lin and his colleagues at the University of California in San Francisco recently studied whether hearing loss is associated with accelerated cognitive decline in older adults. The scientists followed nearly 2,000 volunteers with an average age of 77 for six years, and found that the subjects who experienced hearing loss at the beginning of the study had significantly higher rates of cognitive decline than those who maintained normal hearing. Scientists at Johns Hopkins University found that hearing loss is associated with accelerated brain shrinkage as people age. For nearly a decade, the investigators performed MRI brain scans on 126 participants ages 56 to 86, and found that subjects with impaired hearing at the start of the study showed faster rates of brain atrophy. Brain regions in the temporal lobe that control memory and other cognitive functions were especially affected. When people have trouble hearing, it impairs their memories because they cannot retain new information they didn't hear in the first place. Many people with hearing problems withdraw from social interactions, and such isolation can negatively affect mood.