## Southampton

## Professional Update

Issue 5 | October 2014 | University of Southampton Auditory Implant Service

### Welcome to our new Director, Carl Verschuur

I am delighted to introduce myself as the new Director of USAIS. Julie Brinton (previous director) will be a really hard act to follow and I want to join everyone else in thanking Julie for her 17 years working for the service. I worked with Julie and a number of the current USAIS staff, and saw a number of the current implant service users, when I previously worked at SOECIC (as was) from 1999 to 2004. Over the past number of years I have been doing a mainly academic role next door to USAIS in the Hearing and Balance Centre, which focuses on audiology teaching and research, much of it related to cochlear implants. During that period, USAIS has expanded and changed almost out of recognition. One aspect that is particularly gratifying is that funding from the NHS has grown with the demand for services so that many more people across all ages are now able to benefit from this fantastic technology. I feel really privileged to now be able to lead the service forward.

Although it's early days in the new job, I've come with some definite ideas about how I'd like to see things develop. Both technology and medical knowledge move



on so quickly, so I think it is absolutely vital that we at USAIS are leading in research and development in the area of auditory implants, but perhaps more importantly we should be applying that research for the benefit of patients. I am particularly interested in "hearing preservation", which means ensuring that whatever hearing the implant recipient already has before they receive the device is preserved as far as possible. The more we learn how to make sure that hearing and the structures of the inner ear can be preserved after getting the implant, the more people will be able benefit from the device. At USAIS we have also been at the forefront of introducing new technology and I'm keen that we continue to do this; over the next few years I'm hoping we can continue to develop better ways of tuning the devices and providing rehabilitation. I will also be working hard with others around the UK over the coming years to make sure that the current guidelines for who should receive a cochlear implant defined by NICE (the National Institute for Health and Care Excellence) are reviewed and updated with the very latest evidence to ensure that as many people as possible who stand to benefit from a cochlear implant are able to do so. Finally, I am keen to look at new ways we can involve you, the professionals, to help us develop and improve the service.

**Carl Verschuur** 

# Spares and Accessories

#### **Amnesty**

Have pupils recently left your school or been upgraded? Do you have a cupboard or drawer full of unwanted equipment?

Please could you return any equipment which is no longer required including any that is faulty.

Unfortunately due to the current economic climate USAIS needs to rationalise the equipment spares held by local teachers and schools.

Families are provided with base kits at initial fitting or upgrade and can request items in exchange for faulty equipment as required. Replacement of non-essential items (eg personal audio cables) may incur a charge.

We will be requesting that all schools for the deaf, resource bases and services complete an inventory of equipment currently held. We will be issuing a list of spares that will be normally be available to you on request.

# Advanced Bionics - Partnering Support Changes

From January 2015 all spares/repairs will be dealt with at USAIS for Advanced Bionics devices. If you have any faulty AB equipment it is vital that it is returned to Partnering Support as soon as possible as USAIS is charged for any unreturned items

# Patient Surveys 2013/4

Patients attending review appointments at USAIS are given a survey to fill in voluntarily to gain their opinions on the service.

We tell the patients:

The NHS wants us to ask you about your experiences on your most recent visit.

Your opinions are very important. The answers you give will help us to improve the quality of our service.

We would like you to think about your most recent visit and answer four questions.

Please ask if you are unsure how to answer the questions.

It would be helpful if you would give a reason for your answers as this will help us to make improvements.

Your comments will be anonymous but if you have a particular concern please do speak to a member of staff or ask to see your Team Leader or one of our Senior Managers.

Please either give your form to the receptionist or put it in the box provided.

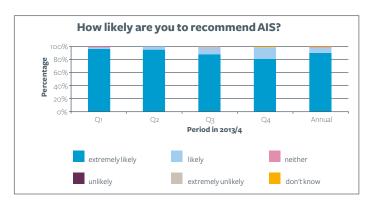
If you do not wish to fill in the form today you can complete the form that is available on our website: http://ais.southampton.ac.uk/ service-reports-and-surveys/

The following charts show the results of the patient survey.

#### Family and Friends

We began asking the following question in April 2013.

'How likely are you to recommend our service to friends and family if they needed similar care or treatment?'

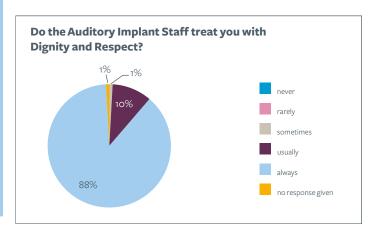


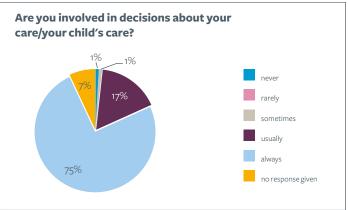
The results were analysed every three months (quarter) as shown in this bar chart.

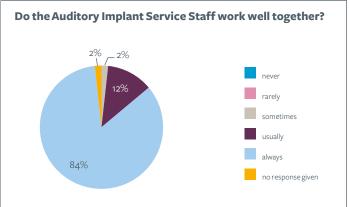
Overall 90% of USAIS patients responding to the survey when attending a review would be 'extremely likely' to recommend this service to their Family and Friends.

We exceeded the target that the NHS set us which resulted in additional funding of 150k.

In January 2014 we added 3 further questions and these are the results for the first 3 months:









The IMAP helps CI users re-engage with music.

# Programme launched to help CI users enjoy music again

A new computer-based music rehabilitation programme to help cochlear implant (CI) users re-engage in music and to hear music more clearly has been launched.

After three years of development and evaluation, the Interactive Music Awareness Programme (IMAP) was launched at the University of Southampton's Auditory Implant Service on the 30th January 2014.

The IMAP is a free, online music aural rehabilitation programme that has been developed with adult CI users through a series of consultations, music workshops and a trial. The new online IMAP now includes a larger library of music, featuring major artists such as Sir Cliff Richard and 10cc.

The programme guides the user through 24 half-hour sessions with written and subtitled video instructions on how to use one of over 20 interactive applications. These applications allow the user to create, manipulate and play music using different combinations of instruments, pitch ranges and rhythms. Each session ends with a mini online listening task (to help users discover new music on the web) or a fun test (to see how much the user has learnt).

The team behind this project include Professor David Nicholls, Drs Ben Oliver, Richard Polfreman and Ms Sarah Hodkinson from the Music department, Dr Rachel van Besouw and Mrs Mary Grasmeder from the Institute of Sound and Vibration Research, and Dr Mike Wald and Mr Magnus White from the Electronics and Computer Science department.

Dr Oliver says: "Cochlear implants can enable severely or profoundly deaf people to perceive sounds and understand speech. However, current devices are very poor at conveying pitch information and therefore, although many CI users express a desire to hear music again, many are dissatisfied with the way music sounds through their implant. We hope that IMAP helps CI users re-engage with music and recognise specific features through their implant, such as melodic pitch and the timbre of musical instruments."

The project was funded by the Arts & Humanities Research Council.

For more information or to use the IMAP resource visit www.morefrommusic.org

### Using Radio Aids for Swimming Lessons

Since March 2013, children using Cochlear™ processors have been able to use their processors for swimming using the Aqua Accessory thus giving them access to sound in the swimming pool and elsewhere. Last February the USAIS commenced a trial using ear level FM receivers within the Aqua Accessory (illustrated).

Five children took part in the trial aged between 7 years 10 years. All were regular users of radio hearing aid systems. Swimming lessons were school based and the children were accompanied by their teacher of the deaf or a teaching assistant familiar with radio equipment. Two types of readily available radio systems were used. The Comfort Audio Digisystem DT20 receiver with the DH 10 transmitter, and Phonak ML14i and SmartLink transmitter (an FM system).

The swimming instructors/coaches were not necessarily required to use the transmitter, this was often better used by the accompanying professional.

The results of the trial were generally very positive, and a second group is now being recruited for further evaluation. Anyone interested in participating should contact the Implant Service for further details. Children using body worn radio systems can be loaned an ear level receiver for the trial. However, be warned: Children may prefer an ear level system having tried it.



Last February USAIS commenced a trial using ear level FM receivers within the Aqua Accessory

### Results from the Adult Voice Audit

Cochlear implantation may increase users' access to sound to an extent that allows monitoring and control of voice. Last year, in a group of 108 adults from our centre and the Emmeline Centre in Cambridge, we saw significant spontaneous improvement in adults' voice control in the first year after the operation. Some of you will remember helping us with this project. We reported these results at an international rehabilitation conference in the USA and the audience found them very interesting. They also wanted to know whether this change occurs in both adults with acquired and congenital loss.

As a result, we have gone on to look at voice control over the first year after operation in 29 adults with acquired and 34 with congenital hearing loss. The age range was 18-88 years. We video-taped people's voices in vocal exercises and conversation on two occasions: pre-implantation and at the one year review. The voice of each adult was assessed by Speech and Language Therapists who categorised breath support, ability to switch the voice on and off, voice quality, control of pitch and range, use of loudness, articulation, use of rhythm, and intonation.

#### What did we find?

Both adult CI users with acquired and congenital hearing loss showed spontaneous development in voice control in the first year post-implantation. We found no differences between groups on breath support, articulation, ability to switch the voice on and off and voice quality in the first year. We did find some differences between the groups in control of voice pitch & range, loudness, rhythm and intonation

The group with congenital loss had lower pre-implant scores than the acquired group and at their one year review for more than half of the congenital group speech intelligibility was affected to some extent by reduced voice control. However, the congenital group made faster improvement than the acquired group over the study period and it will be interesting to see if there are still differences between the groups 5 years post-implant.

### **Education and Training at USAIS**

#### (1) Professional training programme 2014/2015

We continue to offer a variety of training courses at the implant centre. We understand how difficult it has become for staff in the field to attend courses due to the time and financial constraints affecting all of us. We also know how valuable professionals in the field are in supporting our patients. If professionals are well trained in cochlear implants this ultimately gives our patients a better outcome. We are therefore now providing some of our courses free of charge (CI - The Basics and devise troubleshooting workshops). We are also looking at bringing the troubleshooting workshops to a variety of locations across the South in order to reduce travel time and costs for people. We hope that this will help local professionals to acquire the training they need to feel confident in supporting patients with a cochlear implant.

"The day was very informative and helpful. The information will be invaluable to myself and other teaching staff in the school setting". (Quote from a delegate following the Cochlear Implants – The Basics training day, September 2013).

We are very pleased to be offering a few new courses in the Autumn term. We will be running a 2 day course in radio aids and soundfield systems (27 and 28 November 2014); a training day on Auditory Processing Disorders (APD) (4 November 2014) and a course on Challenging Isolation - Working with Adults who have few communication opportunities in their daily lives (22 September 2014).

We also continue to offer the opportunity for tailor made courses presented either at the implant centre in Southampton or at a more convenient local setting. For further information please contact our training coordinator Sue White sr1@isvr.soton.ac.uk

Booking on a course has never been so easy with our online booking system. For this and further details on the courses available please visit the professionals area of our website and click on training programme.

#### (2) Introduction to Cochlear Implants: USAIS Masterclass

From 2015, USAIS will offer an exciting new module "Introduction to Cochlear Implants: USAIS Masterclass", which will be open to postgraduates.

The module will run in January as intensive masters level module, covering a total contact period of one week. Curriculum content will be divided between (i) an overview of core issues around cochlear implant design, candidacy and monitoring in the context of management of severe to profound hearing loss in adults and children, (ii) focus on a more specialist area of current clinical and scientific controversy or knowledge and (iii) focus on clinical management, governance and professional issues, particularly through the guided clinical observation session and associated individual reflective assignment. Because the module aims to give grounding across a range of core scientific and clinical aspects of cochlear implantation, the focus will be more on application to adults than application to children, although students will learn about key issues relating to candidacy and outcomes in the paediatric population.

The week will comprise of lecture series each morning on the nature of severe and profound deafness, and cochlear implant design, candidacy, tuning and monitoring methods. This will provide a broad overview of core scientific and clinical aspects of cochlear implantation that will form the basis of on-going research and clinical practice. The afternoons will comprise of training in cochlear implant devices and facilitated group observation of a patient for a tuning and rehabilitation session and a discussion session with the parent of a child with a cochlear implant.

#### There are 2 registration options:

- 1.) For credits (ECTS 7.5): Students/delegates following this pathway will be required to complete and pass 2 substantive assignments, or
- 2.) CPD Points only (Full attendance and participation required)

For more information about the module, different registration options and cost, please contact Nicci Campbell (USAIS Academic Coordinator) nc@isvr.soton.ac.uk

### Long-term follow up of cochlear implant users

A large amount of resources is required to provide post-operative care to patients who receive a cochlear implant; the implant service commits to lifetime follow-up. This may be up to 100 years in the case of a baby receiving implants. The patient must commit to attending frequent adjustment and rehabilitation appointments in the first year and regular follow-up appointments thereafter. These services are provided at specialist cochlear implant centres which may be several hours away from the patient's home necessitating expense, time off work and family disruption.

At USAIS we are planning a project to trial a remote follow-up pathway for adults who would like to take part. Instead of coming in regularly for routine appointments on a centre-led schedule, patients will be assessed from their home by a remote connection and would only come to the clinic if they really needed to come. Patients would be able to monitor their own hearing, obtain information, self-rehabilitation, advice, equipment training and troubleshooting on a personalised website or mobile device app. In some cases, patients would even be able to modify their own maps and test their implant using a customised remote control.

We are hoping this trial will produce the following benefits for the patient:

- more stable hearing (problems identified quicker)
- better hearing (ability to fine tune when away from clinic in a real-world environment)
- convenience of not attending routine appointments
- reduction of travel cost and time, time off work and disruption to family life
- more confidence to manage own hearing health care
- more equality in service delivery

It may also mean that the implant service would have more resources to see difficult cases and the expanding population of new patients.

Of course there will be some patients who do not have the means or motivation to use the internet or other tools to monitor their hearing or access hearing care. These patients clearly benefit from attending the Auditory Implant Service. This project proposes putting the patient at the centre of their follow-up care, and giving them the choice to access services that may benefit them.

#### **Active Wear Shirt for CI Users**

CI Wear have created a swim and active wear shirt that has sleeve pockets that allow individuals to incorporate their CI sound processors into the shirt. The shirt conceals the processor(s) within the sleeve pockets and allows you to thread the sound cord on the inside of the shirt. This reduces the possibilities for snags and entanglement when swimming or participating in different physical activities.

For more information please visit their website www.ciwear.com

#### **Alternative Headbands for** Children

In our last newsletter there was an inspiring piece on Hazel's bespoke headbands made by her mum to keep her speech processors in place. For those of you who are not so confident to give it a go yourselves there is a ready made option. Visit

www.hearinghenry.com for more information



hearinghenry headbands are designed to keep speech processors on babies and toddlers, so they cannot be pulled off by wandering, curious fingers!

### Making a Splash

Three year old Owen has had bilateral AB Neptune processors for two years. His mum Katie and dad Martin chose them as they regularly go to the swimming pool with brother Alfie. Mum Katie has found attaching the processors in their aqua pouches to a back float has worked well, using long length aqua leads threaded between the float and his back.

#### Katie says

"Owen loves his processors and uses them with his back float every time we go swimming. We found using the arm bands provided by AB a bit difficult to get on with in the pool as Owen would easily pull his coils off while splashing about. He found this very frustrating! The back float is brilliant as it gives him free movement in the water and the coils hardly ever fall off. Owen listens very well in the pool and often responds better than Alfie."







Here is Owen modelling his back float.

# Middle Ear Implant – life after the op

One of our middle ear implant users, Steph Bennett, wrote to us recently about her implant journey.

"I have started this feedback so many times and every single time it came over like a report – so I am trying again and I am trying very hard to convey my wellbeing changes as well as the physical changes. 'Leading from my heart as well as from my head'.

A quick resume of me – mum of two teenagers; one with severe nocturnal epilepsy. In full time employment – I work in local government and am involved in policy decision making and liaison with members so lots of meetings, some that I chair at a Hampshire level and lots of listening required – not the best career choice for someone with hearing problems. I was required to leave my previous profession as a ship's captain due to my hearing loss. I have a hubby who is also hard of hearing.

I won't list the problems I was struggling with before my implant but will incorporate them into the changes to my life over the last 6 months.

I had my op at the beginning of 2013 and as the year has progressed I have experienced remarkable improvements.

I must start with a change that I did not expect, and that I don't think anyone anticipated. I have always been reasonably good at foreign languages and had not really twigged that as my ability to hear decreased my foreign language use decreased as I relied more on lip reading. But this year I have been to France twice. FABULOUS! I can actually converse; rustily mind you. Of course I couldn't lip read French, so I had withdrawn to being a bystander on holidays. It was like a 'Eureka' moment – I was stood at the butcher's counter and realised that I was actually conversing with him rather than pointing and gesticulating. I have two trips to France booked for 2014 and one trip to Greece; hopefully I will impress the locals with a bit of conversation.

The example above is significant in that it represents just one of so many things that have been unexpected. All have increased my

happiness and wellbeing but that, in turn, has increased the wellbeing of those around me.

I return home in the evenings and whereas I would take my hearing aids out to give my sore ears a rest and become a recluse, I am now conversing with my family. I have started a bit of a social life by attending a big raucous quiz night in Bournemouth once a month. 280 people packed into a lively café. Noisy. Hilarious. Mindnumbing chaos at times. But I feel included.

I had been suffering terrible swelling, soreness, infection and bleeding from the skin inside my right ear for many years. The left ear was also quite unpleasant but less so than the right side that has always been very difficult to fit ear moulds to; for those reasons as well as the medical reports expressing no preference for which ear should be implanted we selected the right side. Since I have had the implant the right ear has settled down completely with no pain at all; but so has the left ear. In fact, the swelling in the left ear has reduced to zero and I now require another new ear mould as my present one is rattling around; the audiologists were astounded by how much my ear canal had opened up.

So I went from wearing my aids only for work to now being able to hear from the moment I wake to the moment I go to bed; this is where my family are getting their mum and wife back. I was so exhausted with trying to hear, coping with the pain and infections in my ears, and I suppose being really run-down and sad, that I was coming home, doing my chores and going to bed.

I probably should briefly mention my daughter Emma as together we have been through most things. Emma has nocturnal epilepsy so if we are going through a bad period I can sleep with the implant on. Her seizures start with a lot of noise so I now have a few more seconds to get to her before she goes into full seizure whereupon the alarms would go off. This allows me to help her keep her airways open.

I also want to mention something else I hadn't anticipated and that I believe is connected. I suffer with bronchiecstasis



Steph Bennett

and had previously dreaded getting a cold. Even without a cold I ended up getting random lung infections. At the very least I would quite quickly be taking massive doses of antibiotics for infections in my lungs, at the worst I would be hospitalised as the infections and asthma affected my oxygen absorption. Since the implant I have not had a single lung infection. I have had bad colds and I have managed my asthma and breathing but I haven't ended up with an infection at all. The only thing that has changed is my previous truly revolting ears are now healed. I believe my lung infection reduction and my implant are connected.

So in summary how can I describe the change in me? I enjoy things. I am not ostracised at work by squeaking hearing aids. I feel part of life again. I am picking up and running with things that have needed sorting for some time that I have not had the energy or inclination to tackle. I am not looking inwards at me as soon as I finish work; my family have mum and wife back. I am so happy. I can hear. I can hear more. I can hear in meetings. I think I might do my PhD."



### WaterWalkerz Teens' Event 2014

On Saturday 8th March 2014 we held our first WaterWalkerz party for USAIS teenagers with cochlear implants. 14 brave teenagers and 4 USAIS members of staff came to the Jubilee Sports Centre at the University of Southampton. Many had never tried the WaterWalkerz before but all were keen. Communication by various means carried on even when all of the teenagers had to take off their speech processors to go in the water. We took it in turns in groups of 3 to have a go in the WaterWalkerz. The rest of us got to have fun in the shallow end with the floats and balls. There were 3 types; a ball, a cube and a 'lightbulb'. It was fun bobbing about on the water in your own little world. We had 5 minutes per go in the Water Walkerz as it needed lots of energy to get it moving around the pool, a bit like a hamster on a wheel. It was amusing to try and bump into each other. The lifeguard reeled us in when our time was up. It was hot inside the balls so it was refreshing to plunge back into the swimming pool afterwards. The real enthusiasts got a second turn. WaterWalkerz certainly works up an appetite so the pizza,

cakes and fruit went down a treat after we had got changed. Many teenagers exchanged phone numbers, Facebook details etc. whilst we enjoyed our food. Some of the feedback included: 'Awesome', 'funny', 'I had a great time chatting with new friends', 'it was really funny' and 'I like to meet deaf people'. It was great to see everyone enjoying themselves especially considering most of them didn't know each other before they came.

I am always looking for fun activities for teenagers with cochlear implants so do contact me, Rebecca Ricaud, with any suggestions on R.A.Ricaud@southampton.ac.uk.



# New! Spares and Repairs Page on our Website

We have added a 'Spares and Repairs' page on our website where you can request a stock item, read troubleshooting guides and find our contact details. You will find this page by clicking 'Spares and Repairs' on the left hand menu of our website.

Here is what one of our patients had to say about the new way of requesting spares and repairs:

As always we welcome your feedback about our spares and repairs service so if you have an idea of how we can improve it please let us know.

#### Reminders

#### **MRI Scans**

Are you aware that CI users need to let us know if they are scheduled for an MRI scan? This applies whichever body part is being scanned

Cochlear implant users need certain safety precautions to be taken before an MRI is carried out.

#### **Medical Alerts**

Are you aware that CI users can order an emblem (jewellery, wrist watch) for themselves. In case of emergency this emblem will alert the medical professionals about their cochlear implant. There are two options, the first option is a paid service with an annual subscription charge from <a href="https://www.medicalert.org.uk">www.medicalert.org.uk</a>. In case of emergency the medical professionals will phone the medicalert team and get the details about their cochlear implant from them.

The second option comes with a one off charge from **www.universalmedicalid.co.uk**, where the emblem can be engraved with any details they wish (e.g. name, ear implanted or any contraindications associated with CI).

More details on these services will be advertised on our website in the near future.

### Checking the skin under the magnet

The information from the processor is sent across the skin via the coil to the internal implant. The coil has a magnet which holds it in place. The strength of the magnet can be changed if needed. If the coil falls off easily the magnet may not be strong enough. If it is too strong it can cause redness, soreness and skin problems which can become serious if left.

It is a good idea to check that the implant user's skin is healthy under the magnet on a weekly basis. If any of the following are present please contact the implant service for advice:

- Redness
- Soreness
- Pain
- Swelling

# Technology Update

#### Data logging capabilities with Cochlear's CP910 (or N6) and Advanced Bionics' Naida CI processors

Data logging is now available with Cochlear's latest processors - the CP910 and CP920 and Advanced Bionics' Naida CI processors. Both companies have come up with a similar 'Data logging' facility. Data logging is a useful tool for clinicians as it can show us which programme is being used the most, how much the processor is being worn and what sort of noise environment the CI user has been in. When a CI user with a CP910 (or N6) or Naida CI processor attends an appointment at USAIS and their processor is connected to one of our computers, the data stored on the processor is downloaded from their processor onto our computer. The data logging information is then available to the clinician. This information is useful to the clinician as it helps us understand if the CI user is making the most of his or her cochlear implant. The information could be helpful for tuning the device or for counselling. This data logging feature is not available for other speech processors as yet.



Data logging is a useful tool for clinicians



 $\label{thm:median} \mbox{MED-EL have designed a 'Sports Headband' to keep the Rondo or Amadé processors in place.$ 

#### Sports Headband from MED-EL

MED-EL has recently brought out a 'Sports Headband' designed specifically for their Rondo and Amadé speech processors. It is made from microfibre material and is designed so that the processor fits in an integral pocket over the implant site so that it is more secure during sporting activities. The microfibre fabric also protects the processor from sweat and moisture. It comes in 4 different sizes.

### Staff Update

We welcome two new members of staff this year. Nicola Timoney our new Audiologist within the East Team and Alex Archer our new Speech and Language Therapist working in the West Team.

### Self-Funded Cochlear Implant Service

The University of Southampton Auditory Implant Service is now welcoming enquiries from people considering a self-funded cochlear implant.

Who might be suitable for a self-funded cochlear implant?

Adults and children who have severe to profound bilateral hearing loss (worse than 70 dBHL) in the high frequencies.

Typically they will have difficulty understanding speech with hearing aids and they will be relying on lip reading. They will also have difficulty using the telephone.

Adults and children whose hearing levels fall outside the criteria set by NHS England for funding of cochlear implants (NICE TAG 166).

Adults who have already have one cochlear implant who would like to consider a second cochlear implant in their other ear.

If you would like further information regarding our Self-Funded Cochlear Implant Service please visit our website or contact us on ais@soton.ac.uk

### Contact us

Auditory Implant Service, University of Southampton, Highfield Campus, Southampton so17 1BJ Telephone: 023 8059 3522 | Repairs Hotline: 023 8058 4068 | Text: 07887 790765 Email: ais@southampton.ac.uk | ais.repairs@southampton.ac.uk

Please contact: ais@southampton.ac.uk

Do you have good news

stories or events for our

next Newsletter?

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