The Australasian Speech Science & Technology Association





ology Association Newsletter

Volume 38, Number 1 September 2023

From the Editor's (computer) Desk

He aha te mea nui o te ao (What is the most important thing in the world?)

He tangata, he tangata, he tangata (It is the people, it is the people, it is the people.)

The most important thing about ASSTA is *the people*. Initially, it held little significance to me during my PhD days, but in the past six years of association, ASSTA has become like home. Being part of the ASSTA community and witnessing its growth and evolution has been a great experience. Notable examples of this growth include the increasing number of grants, the establishment of an Early Career Researchers community, and the upcoming hosting of Interspeech in 2026.

Personally, I am most excited about Interspeech 2026, where the Australasian speech and language research community will share numerous research stories about Australian and Pacific languages. It's an ideal platform to showcase our rich linguistic diversity and research efforts.

In Aotearoa New Zealand, speech and language research interest is on the rise, especially after the pandemic highlighted disparities in language technologies across various languages. A similar trend is noticed worldwide. There is a strong urge in the research and industry community to build technologies that cater to all languages. However, this is not a straightforward task. Each language has its own history and unique resources, which may not easily translate into technology development. Taking a one-size-fits-all approach to speech and language technology may not be effective. In our hunt for more and more resources to build technology, the most crucial resource - *the people* i.e., the native speakers of the language are often overlooked. The way forward is technology development centered around language speakers. This ensures that our understanding of languages benefits technology and that technology benefits the language community, upholding data sovereignty.

ASSTA – our vibrant multi-disciplinary community has a lot to offer in this regard. We are a community with researchers collecting language resources, working with language communities, trying to understand language changes and building speech and language technology. Hence, we have researchers working on all aspects of speech, science and technology. Together, we have the potential and resources to develop speech and language technology that aligns with and serves the people who speak the languages. As the te reo Māori proverb above states – ultimately, all our science and technology development should be all about *the people*!

Jesin James, The University of Auckland jesin.james@auckland.ac.nz ASSTA Newsletter Team



ASSTA

July 2023

President's report

Where ASSTA President Felicity Cox, introduces us to this newsletter

What's on @ASSTA

Our news segment to share everything that has been going on the ASSTA community.

ASSTA Stories

Stories regarding the involvement with Cambridge Elements in Phonetics, Andalucía Language Atlas and the Lisu language

Some Exciting Reports

Reports from the ASSTA networks and various research labs and programs in Australia and New Zealand.

Research Events, Conferences and Awards

Read the stories of some exciting events organised, awards won and conferences attended by our ASSTA members.

The ASSTA Team



President Felicity Cox Macquarie University



Secretary Debbie Loakes University of Melbourne



Treasurer Michael Proctor Macquarie University



Executive Member Olga Maxwell University of Melbourne



Executive Member Sasha Calhoun Victoria University of Wellington



ECR Executive Member Louise Ratko Macqua<u>rie University</u>

Supported by our Corporate Members







Hear now. And always

President's report

by Felicity Cox

Welcome to our 2023 newsletter, and a science and technology in Australasia particularly warm welcome to our new and to furthering members' ongoing members. Thank you for choosing to join professional development. ASSTA and become part of our reminder, the grants include New community of dedicated, passionate and talented scientists.

Firstly, let me congratulate members on research funding successes, publication acceptances, and presentations delivered (with aplomb) at scholarly and outreach meetings. Thank you for sharing your work and your enthusiasm. I look forward to reading about your achievements in the lab reports. Congratulations to student members who've been awarded higher degrees and your supervisors who have stood alongside you carefully shepherding you through your higher degree journey. And finally, a shout out to those of you who have been engaged in reimagining your teaching methods and materials to the challenges manage and opportunities in these early days of publicly accessible generative AI.

where travel returns and face to face meetings (both locally and abroad) commonplace become once again, ASSTA continues to provide opportunities to support members (particularly student/ECR members) through our grants programs. We are Well done and congratulations Angelo. committed to the advancement of speech

As a **Researcher** Awards Scheme (to support SST conference attendance), **Conference Travel Awards** (for select overseas conference attendance). Special Initiative Awards (to help promote national high-level initiatives), and the Carer Support Scheme (to support carers to present at national and international meetings). Please encourage your colleagues and students to join ASSTA to take advantage of the support programs available. Check our website for details.

In 2023 the ASSTA Special ICPhS2023 Student/ECR Travel Award of \$1000 was made available to eligible members who had been accepted to present a paper at ICPhS 2023 in Prague. The award was possible through the generosity of a previous ICPhS student/ECR winner who donated their prize back to ASSTA. The award was As we move towards a post-COVID era highly contested with several extremely worthy recipients. Thank you to the reviewers who gave their time to read and rank the submissions. The successful recipient was Angelo Dian for his paper 'Preaspiration in Italian voiceless geminate and singleton stops'.

were held in Europe in August. In order to broader region, allowing us to showcase the further support student/ECR members, for diversity of languages and cultures that enrich Australasian communities. The speech research community has been single award per year condition for ASSTA **Conference Travel Awards**. In addition, increasingly focused on under-resourced languages and atypical speech, aimed at improving access to speech technology for all. We are well placed in Australasia to support these initiatives. Our chosen theme also reflects the diversity of research in the speech science and technology field and allows us to highlight, support and encourage ground-breaking work. **INTERSPEECH** will provide a forum that encompasses inclusivity by welcoming clinicians and educators alongside the attend Europe to ICPhS scientific community. This will be a major and INTERSPEECH. Seven awards were for event for ASSTA and we welcome your support in hosting such an important conference. We made our first short teaser presentation at INTERSPEECH Dublin this year. Please make contact with me or Debbie Loakes secretary@assta.org if you'd like to be involved in helping with

This year both ICPhS and INTERSPEECH which was chosen to reflect Sydney and our these two meetings we have waived the the joint Acoustical Society of America and the Australian Acoustical Society meeting (Acoustics Sydney) is to be held in December this year. For this prestigious meeting we have waived the requirement that only overseas conferences are eligible. I'm very excited to share with you the awardees for our travel grants and I am so pleased that ASSTA is able to help support so many student/ERC members to travel to ICPhS and five were for INTERSPEECH. Congratulations to Hannah White, Jessica Chin, Shuting Liu, Canaan Lan, Yanping Li, Tuende Szalay and Eylem Altuntas for ICPhS and Yanping Li, Tuende Szalay, Louise Ratko, Jessica Chin and Mostafa Shahin for INTERSPEECH. I look forward INTERSPECH 2026. to seeing you all at the conferences.

I'd like to once again thanks Rosey ASSTA also offers the ASSTA Research Billington and her team of dedicated Event Awards of up to \$5000 to support organisers for hosting a fantastic SST 2022 groundwork meetings for setting up new or in Canberra. For many of us this was the strengthening existing research first face to face meeting in a very long time collaborations and for seminars or thematic and it was reinvigorating to be back workshops. Please let us know if you have together with you all for SST - my any events in mind that would benefit favourite conference. Everyone really ASSTA members. appreciated the attention to detail and the exemplary organisation. We're thrilled that Last year we announced the exciting news SST 2024 will be held in Melbourne thanks that ASSTA won the bid to host to Olga Maxwell and her team. Further INTERSPEECH in Sydney from 28th details will come through over the coming September to 1st October 2026. Our theme months.

is Diversity & Equity - Speaking Together

In 2022, ASSTA launched the ECR/PG network. Josh Penney and Louise Ratko are leading this initiative with Sasha Calhoun as the facilitator. The group have been meeting regularly and provide support and mentorship to ECR/PG members. This initiative is so important for all emerging researchers but particularly for those of you without the support of larger labs or teams at your institutions. See the ECR/PG network report for details of how to join.

Don't forget we have a social media presence on twitter (@realASSTA) so please send through details of your accepted papers, events, presentations, lab news etc. so we can spread the word.

We also encourage you to send any announcements for our community to Debbie via the secretary's mailbox (<u>secretary@assta.org</u>). I'd particularly encourage notices for presentations or seminars that would be of interest to ASSTA members.

We always welcome suggestions for improving ASSTA so please feel free to let us know if you have ideas that may help promote ASSTA and assist members.

May you and your families stay safe and well.



Have a look at the spectrogram on the cover page of the newsletter.



READ me!

What's it saying?

Email your answers to Jesin! (jesin.james@auckland.ac.nz)

2 What's on @ ASSTA

I P A

ASSTA @ IPA

ASSTA members, Professors Marija Tabain, Janet Fletcher and Gerry Docherty have been reelected to the International Phonetics Association (IPA) council.



Marija Tabain



Gerry Docherty

y

Be a @the_real_ASSTA tweeter

ASSTA has been on Twitter since ICPhS 2019 - you can follow us at <u>@realASSTA</u>. If you want to share anything with our community, or ask for a retweet on relevant research or news, contact <u>ASSTA</u> <u>Secretary</u>.

Funded postgraduate opportunities @ The University of Auckland

Virtual spaces can allow users to create more meaningful online time and bridge physical distances. Recent years have seen a rise in AR/VR products targeted at elderly users for rehabilitation and communication. where they can benefit from such technologies especially with the current pandemic, being isolated due to health and travel risks. However, introducing new technologies to elderly users may be met with resistance, especially if the elderly users have trouble trusting the applications. This is particularly true when using a VR/AR product for communication purposes, where it is important to understand speech in these virtual acoustic environments without added listening effort. At the same time, normal hearing elderly listeners have shown to struggle with listening to speech in adverse and unfamiliar environments.



University of Auckland, New Zealand. The research topics include speech perception and production, virtual reality and acoustics, and elderly research. For more details visit:

For more details visit: https://www.cal.auckland.ac.nz/fundedpostgraduate-opportunities-call-forstudents/

Also, for more details, contact Dr. Justine Hui - justine.hui@auckland.ac.nz.

NEWS

To explore the elderly users' speech perception and listening effort in virtual acoustics three funded postgraduate opportunities (1 PhD, 2 Masters) are available at Waipapa Taumata Rau - The University of Auckland, New Zealand.



What's on @ ASSTA

Interspeech 2026 Heads Down Under



Interspeech 2026 - Sydney **Diversity & Equity - Speaking Together**

International Speech Communication Association

After waiting 'patiently' for 18 years. Interspeech returns!

ASSTA has been selected to host Interspeech 2026 at Sydney. The theme of the conference will be Diversity & Equity Speaking Together strongly reflecting our Asia-Pacific region.

Sebastian Möller, International Communication Speech Association ISCA President congratulated ASSTA as - 'We are happy that we had very strong candidates, with very strong bids, and in the end the ISCA Board voted for Sydney, Australia, for hosting Interspeech 2026. Congratulations to Felicity Cox, her entire team, as well as to the Australasian Speech Science Technology Association and (ASSTA), for this success!

ISCA is very happy to return to Australia after Interspeech 2008 in Brisbane, and after ICSLP 1998 in Sydney, for running its flagship event.

Felicity Cox, ASSTA President described the theme choice as -Sydney is Oceania's largest city and is also its most linguistically diverse: more than 300 different languages are spoken and 40 % of Sydneysiders speak a language other than English at home. Consistent with the goals of ISCA to promote, in an international world-wide context, activities and exchanges in all fields related to speech communication science and technology, Interspeech Sydney will highlight the diversity of research in our field with a firm focus on equity and inclusivity.

SST 2024: See you in Melbourne!

In the first bit of news that is out about ASSTA's annual conference the Australasian International Conference on Speech Science and Technology (SST), it is confirmed that SST 2024 will be in Melbourne from 3-5 December 2024. The tutorial day will be on 2 December 2024 . See you in Melbourne!



Methods in Dialectology XVIII

La Trobe University will host the 18th International Conference on Methods in Dialectology (Methods XVIII) from July 1-5 2024 - link to conference website. Methods in Dialectology is a triennial conference that has traditionally alternated between Canada and Europe. Originally a forum for methodological issues in dialect research, the conference has progressively extended its range of topics to include not only regional but also historical and social variation in language. Methods XVIII will take place for the first time in Australia. The theme for Methods XVIII is **Diversity in Dialect and Language.**



The premier gathering of international sociolinguists - the biennial Sociolinguistics Symposium: The Sociolinguistics Symposium 25 will be held at Curtin University, Perth from 24 -27 July, 2024.

For more details visit the symposium link.

NEWS

LangSoc 2023 @ Auckland

Conference 2023 Language and Society

The 2023 Annual Conference of the Linguistic Society of New Zealand will be hosted by the University of Auckland. Māori language research symposium on 28 November 2023 will be followed by the Language and Society conference on 29 to 30 November 2023. For more details visit the conference website link.

Sociolinguistics Symposium



Cambridge Elements in Phonetics

by David Deterding



The Elements published as part of the Cambridge Elements in Phonetics

Cambridge Elements, with a length of between 20,000 and 30,000 words, are publications that are designed to be longer than journal articles but shorter than books, thereby offering academics and researchers the opportunity to publish coverage of a selected topic in some depth without having to write a whole book.

One series is Cambridge Elements in Phonetics. This aims to offer substantial overviews of the state of the art in various topics in phonetics, such as consonants, vowels, rhythm, intonation, and acoustic analysis, applications such as phonetics in language teaching and forensic linguistics, and substantial descriptions of a range of different languages. It is hoped that the latter can include descriptions of the pronunciation of endangered languages, such as the indigenous languages of Australia, thereby contributing substantially to their documentation. However, at present no elements on Australian indigenous languages have been scheduled.

published in this series:

by David Deterding, Ishamina Gardiner, and Najib Noorashid

by Di Liu, Tamara Jones, and Marnie Reed

by Benjamin Tucker and Yoichi Mukai 8. Forensic Transcription,



Other elements being developed include ones on the phonetics of Mandarin Chinese, the phonetics of Taiwanese, phonetics in the brain, and speech rhythm.

More details about this series can be found at:

It is hoped that ASSTA members might consider this opportunity to publish a substantial overview of the state of the art in an area of phonetics, potentially including new reports of research and fresh analysis of data. The format is not fixed, so various approaches can be adopted in producing an element in this series.

For more information, you can contact the editor at: dhdeter@gmail.co

- Currently, three Elements have been More elements should soon be available, including:
 - by Ulrike Gut, Romana Kopečková and Christina Nelson
 - by Jette Hansen Edwards
 - by Helen Fraser

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4 Vowels and Tones of Lisu

by Rael Stanley



Lisu is a Sino-Tibetan language of Central Ngwi branch. Map of Lisu language area shown in green. It has multiple tonal contrasts, a typologically unusual vowel inventory, and multiple fricative contrasts. In my thesis, I present an acoustic phonetic study based on **data collected from eleven speakers of the Nujiang variety of Northern Lisu**, spoken in Nujiang Autonomous Prefecture in Yunnan, Southwestern China. The study focuses on the vowels and tones of the language, and on their interaction, as well as on the fricatives of the language.

Northern Lisu has six tones, including four modal and two creaky-voiced tones; it has ten vowels, including five front vowels, four back vowels, and a central "fricative" vowel; and it also has 9 fricative consonants, including /f, v, s, z, \int , J, x, χ , \tilde{h} /. The interaction between tones and vowels is analyzed using Esling's Laryngeal Articulator Model. Results show that all speakers produce a lower f0 in the retracted vowel context, but it is not the case that all tones are creakier in this same retracted vowel context. At the same time, there are noticeable differences between male and female speakers in terms of voice quality.

Examination of the vowel space shows a reduction in many vowel contrasts. It is suggested that the vowel space is becoming regularized, with perceptually difficult contrasts being neutralized. In addition, it is shown that the fricative vowel contains minimal frication compared to the fricative consonants, and as such is better described as a syllabic retroflex approximant. Finally, an examination of Lisu fricative consonants describes the spectral features of sounds that have not been well studied cross-linguistically.

This study highlights **the importance of documenting speech in minority languages**, in order to better understand the interaction between laryngeal and supra-laryngeal articulation; the forces shaping vowel inventories; and the typologically less common sounds of the world's languages.

5 Atlas Lingüístico Interactivo de los Acentos de Andalucía

by Alfie Herrero de Haro



The project Atlas Lingüístico Interactivo de los Acentos de Andalucía -Interactive Linguistic Atlas of Andalusian Accents (#ALIAA) started on 1st January 2023. Its aim is to describe the accent of 500 out of the 785 towns in Andalusia (southern Spain) and present phonetic variation through an interactive web tool. Two men and two women will be analysed in each town.

The project's website is <u>www.acentosandaluces.com</u>.

Data gathering is being done online first, via www.phonic.ai, and in 2024 a series of fieldtrips will take place to complement the data gathered via online surveys. Users have found the online survey site effective and easy to navigate. With some Twitter posts having reached over 45K views and some media appearances on newspapers and TV, participation has reached up to 100 online surveys completed on some days; the target is to gather 300 surveys per month for a whole year and we have collected under 900 surveys in 7 weeks. As in other projects built around crowdsour-



Interactive Atlas showing phonetic transcription of some words across some postcodes in Andalusia

ced data, around 10%-15% of samples are discarded, mainly due to participants completing the spoken online survey in noisy environments or not finishing the interview. The interview captures some spontaneous speech (e.g. describe your town, summarise a movie), individual words (e.g. naming objects from photos) and a reading of the North Wind and the Sun; it takes 25-30 minutes to complete the survey. The initial data analysis phase shows no issues with the quality of the data collected and acoustic analyses show that some phenomena have spread to areas where it was not present according to the 1973 atlas; other phenomena reported in the 1973 atlas has not been found yet (e.g. differentiating between $/ \frac{1}{1}$ and $/ \frac{1}{1}$ in some parts of Andalusia). Linguistic data are organised by postcode rather than by town: one of the reasons for this is that



there are reported phonetic differences between different parts of some big cities (e.g. Seville) and it was easier to obtain geolocation data for postcodes than for legal town boundaries. The initial visualisation tests are being carried out on QGIS and the interactive map tool is being developed and built on www.geojson.org. This interactive tool can now represent the spread of different phonetic phenomena across Andalusia and it can also display the phonetic transcription for a series of words as shown in the map to the left. Once the project is finished, the online tool will be made available to the public so that researchers can use it to map other phenomena (e.g. differences in vocabulary) or to map phonetic differences in other countries (i.e. it will be a matter of changing the map of southern Spain for the map of Australia).

ASSTA ECR & HDR Network

by Louise Ratko

We are delighted to share the exciting news about the thriving ASSTA ECR and HDR network!

Currently the ASSTA ECR and HDR network has 30 members from across Australasia and has become a vibrant hub for Early Career Researchers (ECRs) and Higher Degree by Research (HDR) students working within speech science and technology.

The network has several resources that members can access. We have a mailing list and a Facebook group, ensuring everyone stays in the loop with the latest developments, events, and opportunities in the field. However the heart of our network lies in the monthly virtual meetings.

Our meetings are held on 3rd Friday of each month from 11:00 AM to 12:00 PM AEST via Zoom. These gatherings serve as an informal and collegial platform to discuss a myriad of issues and points of interest for ECRs and HDRs. From seeking assistance with statistics and coding to exploring optimal ways of communicating our research (both written and oral) and much more. The collaborative environment allows members to share insights and exchange ideas. Additionally, our network information. facilitates valuable opportunities to catch

up, celebrate and collaborate with fellow early career researchers, fostering a supportive ecosystem that encourages growth and development.

We understand that time is often a precious commodity for busy researchers. Therefore, we encourage any level of participation that suits your schedule. If committing to a monthly meeting is challenging, fret not - join us as needed, and your presence will always be valued.

If you are interested in joining our mailing list, Facebook group or monthly meetings, please contact Louise Ratko for more

at louise.ratko@mg.edu.au.

by Marija Tabain

The following are the updates from the ASSTA community at La Trobe University:

Rael Stanley has submitted his PhD thesis entitled "Acoustic Phonetics of Northern Lisu: Vowels, Tones, and Fricatives" (The abstract of the thesis was reported as news item 4)

We have welcomed **Dr Xirui Liu** from China as a visiting scholar in phonetics for 2023, working on the phonetics of the languages Khmu and Kemie.

Marija Tabian has been re-appointed as Editor of the Journal of the International Phonetic Association for a second (and final) four-year term.





LA TROBE UNIVERSITY

Dr. Liang Voice Program

by Tuende Szalay



Dr Liang Voice Program

The Dr. Liang Voice Program (DLVP) at The University of Sydney is an inter-disciplinary group of researchers, co-directed by Associate Professors Cate Madill and Daniel Novakovic. We are a group of researchers in speech pathology, ear, nose, and throat surgery, phonetics, medical physics, and education, all involved in collaborations on different aspects of voice and its disorders. We also work closely with bioengineers at The University of Sydney and at University Hospital Erlangen, Germany. The program was established in 2016, and this is our first time joining the ASSTA network.

- **Research Activities**
- **Educational activities**
- **Recent Highlights**
- **Events and workshops**
- **Selected publications**
- PhD Scholarships

DLVP's website: https://dlvp.org/



Our research spans five key research areas: voice physiology and control; voice measurement; voice assessment; voice treatment (behavioural and surgical); and technology development (see Research Activities). We are also actively involved in education, providing training for students and practicing clinicians (see **Educational Activities**).

Research Activities: In our lab, we have

- Pioneered and published on a new Refined and applied specialist analysis treatment of laryngeal botulinum toxin to analyse data on the relationship for patients with laryngeal sensory between lung volume and voice dysfunction. characteristics to address questions in • Investigated differences in auditoryvoice physiology and control. perception and clinical communication
- Examined the relationship between between Chinese and Australian speech pitch discrimination ability and voice pathology students. quality in speakers with and without • Determined the effect of facial masks on voice disorders. the acoustic and auditory-perceptual Applied and further developed a new outcomes of voice.
- voice onset measurement tool, the Voice Onset Assessment Tool (VOAT) to a



Chacon, John Holik, Dr Winnie Yeung, Assoc Profs Daniel Novakovic and Cate Madill.

- range of data sets. This work is in collaboration with the University Hospital Erlangen and is being implemented by our honours students.
- Analysed the relationship between acoustic measures and auditoryperceptual dimensions of the voice in different laryngeal configurations.
- Created profiles of voice disorders for assisting with voice analysis based on comprehensive retrospective analyses.

Left to right: Visiting researcher Dr Zhou Hao Leong, Dr Duong Nguyen, Dr Avital Fellner, Antonia

Educational activities

Our education program offers online courses and face-to-face workshops through Bridge2Practice (B2P). B2P is a free, flexible online learning tool for students, clinicians, and researchers. It helps users learn to identify specific perceptual features, skills, and behaviours by listening, viewing, or watching audio, still image and/or video samples and then rating them for different features related to clinical practice across all allied health disciplines. It can provide immediate feedback to students so they can practice whenever or wherever they like.

It can also be used to quickly create custom online learning activities (including online peer review) that students can practice and then receive immediate feedback. The B2P online tool continues to be utilised by students and researchers alike at over 20 institutions in Australia and around the world. It is currently being used across three European Universities as a component of a successful grant application from 2020.

The state-of-the-art University of Sydney Voice Assessment Clinic (USVAC) facility at the Susan Wakil Health Building has now been completed and easing of COVID-19 with the restrictions, started teaching clinics. Assoc Prof Novakovic and Dr Stewart alongside Dr Nguyen, and Assoc Prof Madill offer bi-monthly comprehensive, state-of-the-art voice assessment to clients with students undertaking significant roles in the assessment. The use of the new facilities has enabled us to offer the opportunity to an increased

program published 14 publications, organised three workshops, and attended several key conferences, such as the American Laryngological Association's conference.

Here are some of the key highlights of the year:

Events and workshops: We organised an **Advanced Stroboscopy Workshop** in June, 2022, two Acoustic Analysis Workshops (June and November) and attended the Speech Pathology Research Symposium in November, 2022.

Selected publications:

1) Novakovic, D., Sheth, M., Stewart, T., Sandham, K., Madill, C., Chacon, A., & Nguyen, D. D. (2021). Supraglottic Botulinum Toxin Improves Symptoms in Patients with Laryngeal Sensory Dysfunction Manifesting as Abnormal Throat Sensation and/or Chronic Refractory Cough. Journal of Clinical Medicine, 10(23), 5486.

2) Nguyen, D. D., Chacon, A. M., Novakovic, D., Hodges, N. J., Carding, P. N., & Madill, C. (2022). Pitch Discrimination Testing in Patients with a Voice Disorder. Journal of Clinical Medicine, 11(3), 584.

3) Payten, C. L., Nguyen, D. D., Novakovic, D., O'Neill, J., Chacon, A. M., Weir, K. A., & Madill, C. J. (2022). Telehealth voice assessment by speech language pathologists during a global pandemic using principles of a primary contact model: An observational cohort study protocol. BMJ open, 12(1), e052518. 3) Payten, C. L., Nguyen, D. D., Novakovic, D., O'Neill, J., Chacon, A. M., Weir, K. A., & Madill, C. J. (2022). Telehealth voice assessment by speech language pathologists during a global pandemic using principles of a primary contact model: An observational cohort study protocol. BMJ open, 12(1), e052518.

4) Nguyen, D. D., Chacon, A., Payten, C., Black, R., Sheth, M., McCabe, P., Novakovic, D., & Madill, C. (2022). Acoustic characteristics of fricatives, amplitude of formants and clarity of speech produced without and with a medical mask. International Journal of Language & Communication Disorders, 57(2), 366-380.

5) Yun, E. W. T., Nguyen, D. D., Carding, P., Hodges, N. J., Chacon, A. M., & Madill, C. (2022). The relationship between pitch discrimination and acoustic voice measures in a cohort of female speakers. Journal of Voice.

6) Nguyen, D. D., Chacon, A. M., Novakovic, D., Hodges, N. J., Carding, P. N., & Madill, C. (2022). Pitch Discrimination Testing in Patients with a Voice Disorder. Journal of Clinical Medicine, 11(3), 584.

7) Aiken, P., Rumbach, A., & Madill, C. (2022). Listening to Video Game Voices: A Call for Action for Research into the Vocal Health of Video Game Voice Actors. Journal of Voice.

8) Newland, D. P., Novakovic, D., & Richards, A. L. (2022). Voice Tremor and Botulinum Neurotoxin Therapy: A Contemporary Review. Toxins, 14(11), 773.
9) Yeung, W., Richards, A. L., & Novakovic, D. Botulinum Neurotoxin Therapy in the Clinical Management of Laryngeal Dystonia. Toxins, 14(12), 844.

10) Novakovic, D., Sheth, M., Fellner, A., Zoszak, A., Liew, S., & Nguyen, D. D. (2023). Microlaryngeal laser surgery using high-flow nasal ventilation at two oxygen concentration deliveries. The Laryngoscope, 133(3), 634-639.

Ph.D. Scholarships

We will be advertising for a Ph.D. scholarship later this year, so keep an eye on our website!

Research Hub for Language in Forensic Evidence

by Helen Fraser

Following the 2017 'Call to Action' (in publications). which ASSTA played a key role), the Research Hub for Language in Forensic Evidence has been moving ahead strongly with its two major 'strands' of research, both directed to our major goal of ensuring that poor quality forensic audio admitted as evidence in criminal trials is always accompanied by a demonstrably reliable transcript.

The first strand aims to help in aptitude. The Hub recently welcomed reforming current legal practice. which allows jurors' understanding of indistinct audio to be 'assisted' by a transcript prepared by detectives from the investigation. Last October the Hub and Deakin Law School co-hosted a workshop for eminent judges and legal scholars to discuss the issues with forensic experts from Australia and the UK (including Felicity Cox). At the conclusion, all agreed that change was needed, and discussions have now started exploring how to bring this about. A paper by Marilyn McMahon (Deakin) and Helen Fraser, describing the workshop and its outcome, is currently in press with the Victorian Law Institute Journal (see under

The second strand aims to **develop** evidence-based accountable. methods for providing reliable transcripts of poor-quality forensic audio. A series of experiments have helped develop (in collaboration with The University of Melbourne's Language Testing Research Centre) a method of testing transcription Lauren Harrington, a graduate student from University of York, for a 2-month internship, during which she added substantial new results, to be reported at IAFPA Zurich in July. We also have a new PhD student of our own, Eleanor Kettle, who will be working on transcription of indistinct audio in foreign-accented English.

Responding to questions about whether computer transcription systems could assist with forensic audio. Debbie Loakes has published an experimental study looking at how these systems perform with poor quality audio (see publication details below). Videos of a



Research Hub for Language in Forensic Evidence

recent Monash seminar by Helen Frontiers in Communication, 7 Fraser, Debbie Loakes and Lauren (Capturing Talk), 803452. Harrington on this topic are available on the Hub blog – where you can also find accounts of many other Hub activities.

Fraser, H. 2021a. The development of legal procedures for using a transcript to assist the jury in understanding indistinct covert recordings used as **Publications** evidence in Australian criminal trials: A history in three key cases. Language McMahon, M., & Fraser, H. in press. and Law / Linguagem e Direito, 8(1), Transcription of indistinct forensic 59-75. audio: Time for reform. Law Institute of Victoria Journal. Fraser, H., & Kinoshita, Y. 2021.

Injustice arising from the unnoticed Eades, D., Fraser, H., & Heydon, G. in power of priming: How lawyers and Forensic Linguistics press. in even judges can be misled by Australia: Origins, progress and unreliable transcripts of indistinct Cambridge University prospects. forensic audio. Criminal Law Journal Press. (Aust), 45(3), 142–152.

Loakes, D. in press. Twin research, In Fraser, H., & Loakes, D. 2020. K. McDougall and F. Nolan (eds.) Acoustic injustice: The experience of Oxford Handbook of Forensic listening to indistinct covert recordings Phonetics. Oxford: Oxford University presented as evidence in court. Law Press Text Culture, 24, 405–429.

H. 2022a. Fraser. Forensic Fraser, H. 2020a. Enhancing forensic transcription: Legal and scientific audio: What works, what doesn't, and perspectives. In C. Bernardasci, et al why. Griffith Journal of Law and (Eds.), Speaker Individuality in Human Dignity, 8(1), 85–102. Phonetics and Speech Sciences: Speech H. Fraser. 2020b. Forensic The transcription: for case

Technology and Forensic Applications (pp. 19-32). Milano: Officinaventuno. transcription as a dedicated branch of Fraser. H. 2022b. A framework for linguistic science. In M. Coulthard, A. deciding how to create and evaluate May, & R. Sousa-Silva (Eds.), The transcripts for forensic and other Routledge Handbook of Forensic purposes. Frontiers in Communication, Linguistics (pp. 416–431). Oxfordshire: 7 (Capturing Talk), 898410. Routledge.

Loakes. D. 2022. Does Automatic Fraser, H. 2020c. Introducing the Speech Recognition (ASR) have a role Research Hub for Language in Forensic Evidence. Judicial Officers' in the transcription of indistinct covert recordings for forensic purposes? Bulletin, 32(11), 117–118.

UniMelb Phonetics Lab

by Debbie Loakes and Olga Maxwell



- **Research** Activities
- Conferences/Workshops
- PhD Students
- Selected Publications

Since the last ASSTA newsletter (Nov 2021), phonetics lab members have taken part in various activities that should be of interest to the ASSTA community, and of course there have been a few graduations.

PhD completions

In January 2023, Yizhou Wang completed his PhD thesis, and it has already passed examination. His doctoral thesis is titled Perceptual modification of nonnative phonemic sequences (Supervisors: A/Prof Brett Baker, Dr Rikke, Bundgaard-Nielsen, Dr Olga Maxwell) and it consists of a series of empirical studies investigating how native Mandarin learners of English perceive novel phonemic sequences that are not used in their first language. He has also recently published from his thesis, in the Journal of Phonetics and Phonetica, as shown below. After his thesis submission, Yizhou became a linguistics teaching associate at the University of Melbourne.

Also, in February 2023, Isadora Reynolds completed her PhD degree. Her doctoral thesis Mind the Gap: A cross-linguistics analysis of first and second language fluency in Spanish speakers of English (Supervisors Prof Jill

Wigglesworth and Dr Olga Maxw and investigated spoken and percei fluency in L1 Spanish and L2 Eng in the context of an English as Fore Language (EFL) setting in Chile. narrowing down the concept of spe fluidity, her findings make important contribution to the stud fluency and give unique insights how fluency is constructed in minds of speakers and listeners.

Other news from the lab

Janet Fletcher was visiting fellow the Institute for Phonetics and Spe Processing, University of Munic April - June 2023.

Olga Maxwell joined the ASS executive in December 2022.

Janet Fletcher gave the AL Plenary, with a talk titled 'What sr languages can tell us about intonational typology'.

• Loakes, D. & Gregory, A. (2022) Voice quality in Australian English. Journal Debbie Loakes gave the keynote of the Acoustical Society of America presentation at the 3rd SocioPhonAus Express Letters. Vol 2 (8), 085201, conference, called 'Sociophonetics in https://doi.org/10.1121/10.0012994 Australian English: exploring social and regional variation'.

Grants

•Mihas, E. & Maxwell, O. (2023). Satipo Ashaninka word- and phraselevel prominence. In K. Bogomolets and H. van der Hulst (eds), Word McDougall, K. & Loakes, L. £17,057 (\$31.572 AUD) 'Sociophonetic Prominence in Languages with Variation Complex Morphologies. Oxford, online in Aboriginal and edn, Oxford Academic, 20 Apr. 2023), Mainstream Australian Englishes: A Features' https://doi.org/10.1093/oso/9780198840 of Disfluencv Study Humanities Cambridge Research 589.003.0011 Grant Scheme (2023-2024).

vell)	ASSTA grants
lish eign By eech	Angelo Dian: SST best student paper award for "Stop (de)gemination in Veneto Italian: The role of durational correlates"
an y of into the	Members of the Phonetics lab at The University of Melbourne also had a range of outputs in 2022 leading in to 2023, as shown below.
	Publications – book chapters and journal articles
v at eech h -	•Fletcher, J. (2023). "Intonation" in Claire Bowern (ed.). The Oxford Guide to Australian Languages, 159-164.
STA	•Ladd, B., & Fletcher, J. (2022). In Memoriam Anne Cutler (1945–2022). Journal of the International Phonetic
S22	Association, 52(3), 602-604.
nall	https://doi.org/10.1017/S002510032200
oout	0160

•Torres, C. & Fletcher J. (2022). Phrase-Speech level and edge marking in Drehu. Glossa Associat 7(1):32,

https://doi.org/10.16995/glossa.5845

•Wang, Y., Bundgaard-Nielsen, R. L., Baker, B., Maxwell, O. (2023). Difficulties in decoupling articulatory gestures in L2 phonemic sequences: The case of Mandarin listeners' perceptual deletion of English post-vocalic laterals. Phonetica, 1-37, https://doi.org/10.1515/phon-2022-0027

•Wang, Y., Bundgaard-Nielsen, R. L., Baker, B., Maxwell, O. (2023). Same vowels but different contrasts: Mandarin listeners' perception of English /ei/-/i:/ in unfamiliar phonotactic contexts. Journal of Phonetics, 1-16, https://doi.org/10.1016/j.wocn.2023.10122 1

Publications – refereed conference proceedings

(with an excellent representation of the Phonetics Lab at the ICPhS!)

• Bundgaard-Nielsen, R. L. Baker, B. J., & Wang, Y. (2023). Words or rules: Phonological mutations in Wubuy. The 20th International Congress of Phonetic Sciences (ICPhS). Prague, Czech Republic.

•Dian, A., Hajek J. & Fletcher J. (2023). Stop (de)gemination in Veneto Italian: The role of durational correlates. Proceedings of the Eighteenth Australasian International Conference on Speech Science and Technology. Australasian

Speech Science and Technology Association, Canberra. 176-180.

• Dian, A., J. Hajek & Fletcher, J. (2023). Preaspiration in Italian voiceless geminate and singleton stops. The 20th International Congress of Phonetic Sciences (ICPhS). Prague, Czech Republic.

•Fletcher, J., Kidd, E., Stoakes, H., & Nordlinger R. (2022). Prosodic phrasing, pitch range and word order variation in Murrinhpatha. In R. Billington (ed.). Proceedings of the Eighteenth Australasian International Conference on Speech Science and Technology, Canberra. 201-205.

•Lan, C. Z., Maxwell, O., & Diskin-Holdaway, C. (2023). Acoustic merger between /e/ and /æ/ in Singapore English: insights into stylistic variation and subvarietal difference. The 20th International Congress of Phonetic Sciences (ICPhS). Prague, Czech Republic.

•Lan, C., Maxwell, O. & Diskin-Holdaway, C. (2022). An exploratory investigation of the /e/-/æ/ and /i:/-/i/ mergers and durational contrasts in Singapore English. In R. Billington (ed.). Proceedings of the Eighteenth Australasian International Conference on Speech Science and Technology, Canberra.

•Liu, S., Maxwell, O., Fletcher, J. (2023). The effect of L2 experience on Mandarin speakers' production of Australian English short and long vowels. The 20th International Congress of Phonetic Sciences (ICPhS). Prague, Czech Republic.

•Loakes, D., A. Gregory, & K. McDougall (2022). Variation in /t/ in Aboriginal and Mainstream Australian Englishes. In R. Billington (Ed.), Proceedings of the Eighteenth Australasian International Conference on Speech Science and Technology Australasian Speech Science and Technology Association. 61-65.

• Payne, E., Maxwell, O., Fuchs, R., & Wang, Y. (2023). Lexical stress perception in Indian Englishes. The 20th International Congress of Phonetic Sciences (ICPhS). Prague, Czech Republic.

•Wang, Y., Bundgaard-Nielsen, R. L., Baker, B. J., & Maxwell, O. (2022). Accuracylatency association in discrimination of L2 vowel contrasts. In R. Billington (Ed.), Proceedings of the 18th Australasian International Conference on Speech Science and Technology (pp. 161–165). Australasian Speech Science and Technology Association.

•Wang, Y. & Bundgaard-Nielsen, R. L. Perception of L2 English affricate onsets in native Mandarin listeners. (2023). The 20th International Congress of Phonetic Sciences (ICPhS). Prague, Czech Republic.

•Wang, Y., Bundgaard-Nielsen, R. L., Baker, B. J., & Maxwell, O. (2022). Native phonotactic interference in L2 vowel processing: Mouse-tracking reveals cognitive conflicts during identification. In H. Ko & J. H. L. Hansen (Eds.), Proceedings of INTERSPEECH 2022 (pp. 5223–5227). International Speech Communication Association. https://doi.org/10.21437/Interspeech.2022.12

•Wang, Y., Bundgaard-Nielsen, R. L., Baker, B. J., & Maxwell, O. (2022). Perceptual overlap in classification of L2 vowels: Australian English vowels perceived by experienced Mandarin listeners. In S. Dita, J.-B. Kim, & R. E. Roxas (Eds.), Proceedings of PACLIC36 (pp. 325–332). De La Salle University.

Publications – other

•Loakes, D. (2022) Review of English on Croker Island Journal of English Linguistics. 50 (4), 413-418.

Macquarie Phonetics Lab

by Felicity Cox



MACQUARIE University **SYDNEY** · AUSTRALIA

- New Staff
- Farewells
- Lab organised research events
- Grants •
- New PhD Candidates
- Master of Research Completions
- Book Chapters
- Journal Articles
- Presentations

Macquarie Phonetics Lab members have been very productive over the past year catching up on some of the lost opportunities resulting from COVID19 impacts. We have welcomed new staff members, celebrated changing roles, and farewelled valued colleagues. Members have presented papers at important meetings online (LabPhon, International Conference on Speech Motor Control) and, at long last, have had the opportunity to attend face to face meetings such as SocioPhonAus3, the Australian Linguistic Society Conference, and SST 2022. We continue to work in diverse areas including articulatory phonology, Australian English phonetics /phonology, phonology of Australian Languages, language acquisition. production and perception of liquid consonants, sociophonetics, and sound change. Lab members were excited to present at ICPhS in Prague and INTERSPEECH in Dublin in August.

New staff

Dr Louise Ratko has joined the team as a We have said a very fond farewell to Dr Research Fellow after **Titia Benders** who was a senior lecturer Postdoctoral previously completing her Master of in the Linguistics Department. Titia Research and PhD at Macquarie University Benders has taken up an Assistant titled "Articulatory characterisation of Professor position at the University of vowel length contrasts in Australian Amsterdam. She is continuing her work English". Louise's research position is part into Child Language Acquisition. of the ARC-funded project "Multicultural specifically developing phonological Australian English: The new voice of representations at the interface between Sydney". As part of this project Louise is perception, production, and input (infantarticulatory differences directed speech). Titia remains closely investigating between multiple ethnocultural groups connected to Macquarie University as within Sydney. Honorary Senior Lecturer in Linguistics. Dr Joshua Penney began in a We were proud to learn that Titia has been given the very great honour of being invited position as lecturer at University's Department of to deliver a keynote address at ICPhS 2023.

continuing Macquarie Linguistics in July 2022. Josh was previously employed as a Postdoctoral With sadness we have said goodbye to **Dr** Research Fellow on the ARC-funded project Andy Gibson who has been a Postdoctoral "Multicultural Australian English: The new Research Fellow in the Centre for Language Sciences for the last three years, voice of Sydney". Josh's research interests working alongside Felicity Cox on the ARCinclude sound change, sociophonetic variation, (multi-) ethnolectal variation, funded project "Child Speech, Community and voice quality. Diversity, and the Onset of Sound Change". Andy's research borders sociolinguistics Dr. Mitchell Browne commenced a Postdoctoral Research Fellowship at and psycholinguistics, with a particular Macquarie in February 2023. Mitch will be focus on performed language, co-editing working on the ARC-funded Discovery with Allan Bell a 2011 special issue of the Journal of Sociolinguistics on this topic. In Project "The building blocks of language: 2023, Andy will take up a position at Queen Words in Central Australian languages", with Rob Mailhammer (WSU), Mike Mary University of London, working with Proctor (MQ), Mark Harvey (UoN), and Devyani Sharma on the "Generations of Jane Simpson (ANU), and speakers of London English" project.

Anmatyerr, Kaytetye, Warumungu, and Warlmanpa. Mitch's focus will be We said farewell to **Dr Jidde Jacobi** who has commenced a position as Data Steward examining morphophonological and morphosyntactic structure in Ngumpinand Secretary of the CETO ethics Yapa and Arandic. He has just returned committee at the University of Groningen, from a successful visit to Tennant Creek providing support across the Faculty of Arts, Philosophy, and Science and where he reconnected with members of the Engineering. We wish Jidde all the best in Warumungu and Warlmanpa communities. this exciting new role.

Farewells

Lab organised research events

In December 2022 phonetics lab members were fortunate to have the opportunity to participate in the **Statistics Workshop** hosted by Dr Serje Robidoux, Adjunct Fellow in the Macquarie University School of Psychological Sciences. On this occasion, the workshop focused on developing further understanding of linear mixed effects models. The workshop took place over two days and was well attended.

Internal Grants

2022 Macquarie University Research Acceleration Scheme \$50,000: Visualising complex speech sounds: A study of rhotic consonants – evidence from ultrasound, Cox, Proctor, Harrison, Kim, Szakay, Penney

ASSTA Grants

Hannah White, Louise Ratko, Tuende Szalay

New PhD Candidates

Timothy Shea: A Sociophonetic Investigation of Men's Speech in Australian English (principal supervisor Professor Felicity Cox, associate supervisors Dr Anita Szakay and Dr Joshua Penney)

Conor Clements: Rhythm and timing in Australian English: variation in multicultural Sydney (principal supervisor Professor Felicity Cox, associate supervisors Dr Anita Szakay and Dr Joshua Penney)

Master of Research Completions

Conor Clements, Linguistics 2022: Variation in the duration of /æ/ TRAP in Australian English (with co-supervisors Professor Felicity Cox, Dr Anita Szakay, Dr Joshua Penney, Dr Andy Gibson)

Book Chapters

•Cox, F. & Docherty, G. (forthcoming) Vowels, in. Strelluf, Christopher. (ed.) Routledge Handbook of Sociophonetics, Routledge, Oxfordshire.

•Cox, F. M. (forthcoming) Australian English Phonetics and Phonology, in Burridge, K. (ed.) The Wiley Blackwell Encyclopedia of World Englishes: Australasia and the Pacific, Wiley Blackwell, West Sussex.

•Cox, F., Palethorpe, S. & Penney, J. (forthcoming) 50 years of monophthong and diphthong shifts in Australian English, in Kleber, F. & Rathke, T. (eds.) Speech Dynamics: Synchronic Variation and Diachronic Change, Mouton De Gruyter, Berlin.

Journal Articles

•Harvey, M., San, N., Proctor, M., Panther, F., & Turpin, M. (2023). The Kaytetye segmental inventory. Australian Journal of Linguistics. <u>https://doi.org/10.1080/07268602.2023.22</u> <u>18270</u>

•Shea, T., Gibson, A., Szakay, A. & Cox F. (2023) Australian English Speakers' Attitudes to Fricated Coda /t/. Australian Journal of Linguistics <u>https://doi.org/10.1080/07268602.2023.22</u> <u>23506</u>

•Ratko, L., Proctor, M., & Cox, F. (2023). Gestural characterisation of vowel length contrasts in Australian English. Journal of Phonetics, . https://doi.org/10.1016/j.wocn.2023.101237 •Coretta, S., Casillas, J. V., Roettger, T. B., ..., Proctor, M., et al. (2023). Multidimensional signals and analytic flexibility: Estimating degrees of freedom in human speech analyses. Advances in Methods and Practices in Psychological Science, 3(6). <u>https://doi.org/10.1177/2515245923116</u>

•Cox, F., Penney, J. & Palethorpe, S. (2022) Fifty years of change to definite article allomorphy in Australian English, Journal of the International Phonetic Association, pp 1-31. <u>https://doi.org/10.1017/S002510032200007X</u>

•Ratko, L., Proctor M & Cox, F. (2022) Articulation of vowel length contrasts in Australian English, Journal of the International Phonetic Association, pp. 1-30. https://doi.org/10.1017/S0025100322000068

•Szalay, T., Benders, T., Cox, F., & Proctor, M. (2022) Reconsidering Lateral Vocalisation: Evidence from perception and production of Australian English /l/, Journal of the Acoustical Society of America, 152, 2106-2116. <u>https://doi.org/10.1121/10.0014249</u>

•White, H., Penney, J., Gibson, A., Szakay, A. & Cox F. (2022) Evaluating automatic creaky voice detection methods, Journal of the Acoustical Society of America, 152, 1476-1486. <u>https://doi.org/10.1121/10.0013888</u>

Conference Full Papers

•Ratko, L., Penney, J. & Cox, F. (2023) Opening or closing? An electroglottographic analysis of voiceless coda consonants in Australian English, Proceedings of INTERSPEECH 2023, Dublin.

•White, H., Penney, J., Gibson, A., Szakay, A. & Cox, F. (2023) Creak prevalence and prosodic context in Australian English, Proceedings of INTERSPEECH 2023, Dublin.

•Gibson, A., Penney, J. & Cox, F. (2023) Acquiring allophony: GOOSE and SCHOOL vowels in the speech of Australian children, Proceedings of the International Congress of Phonetic Sciences 2023, Prague.

•Penney, J., Gibson, A., Cox, F. (2023) Variation in FACE and FLEECE trajectories in Australian English adolescents according to community language diversity, Proceedings of the International Congress of Phonetic Sciences 2023, Prague

•Szalay, T., Benders, T., Cox, F., & Proctor, M. (2023) Prelateral vowel change in Australian English POOL-PULL, Proceedings of the International Congress of Phonetic Sciences 2023, Prague.

•White, H., Penney, J., Gibson, A., Szakay, A. & Cox F. (2023) Convergence of creaky voice use in Australian English, Proceedings of the International Congress of Phonetic Sciences, Prague

•Gibson, A., Penney, J. & Cox, F. (2022) Rhoticity and hiatus breaking in Australian English: Associations with community diversity, Proceedings of the Australasian International Conference on Speech Science and Technology, Canberra, December 2022.

•Penney, J., Davies, B. & Cox, F. (2022) Assessing the validity of remote recordings captured with a generic smartphone application designed for speech research. Proceedings of the Australasian International Conference on Speech Science and Technology, Canberra, December 2022.

•Szalay, T., Benders, T., Cox, F., & Proctor, M. (2022) Vowel merger in Australian English lateral-final rimes: /æɔ-æ/. Proceedings of the Australasian International Conference on Speech Science and Technology, Canberra,

•Szalay, T., Shahin, M., Ratko, L., Tharmakulsingam, S., Cox, F., Ballard, K., Ahmed, B. (2022). A semi-automatic workflow for orthographic transcription of a novel speech corpus: A case study of AusKidTalk, Proceedings of the Australasian International Conference on Speech Science and Technology

•White, H., Penney, J., Gibson, A., Szakay, A. & Cox F. (2022) The influence of pitch and speaker sex on the identification of creaky voice by female listeners, Proceedings of the Australasian International Conference on Speech Science and Technology, Canberra, December 2022.

Presentations:

•Cox, F., Penney, J. & Gibson, A. (2023) Multicultural Australian English: The New Voice of Sydney, Workshop on

Language Corpora in Australia, ANU, Canberra

•Szalay, T., Ballard, K., Cox, F. & Ahmed, B. (2023) AusKidTalk: Collecting a Corpus of 3- to 12-year-old Australian Child Speech, Workshop on Language Corpora in Australia, ANU, Canberra,

•Clements, C., Penney, J., Gibson, A., Szakay, A. & Cox, F. (2023) Effects of community language diversity on the variable duration of Australian English TRAP vowels, International Symposium on Bilingualism, Sydney

•Gibson, A., Penney, J. & Cox, F. (2023) Language Transfer in the English of Multilingual Australian Children, International Symposium on Bilingualism, Sydney

•Penney, J., Gibson, A., Szakay, A. & Cox, F. (2023) Effects of community language diversity on the variable duration of Australian English TRAP vowels, International Symposium on Bilingualism, Sydney

•White, H., Gibson, A., Penney, J., Szakay, A. & Cox, F. (2023) Differences in prevalence of creaky voice in monoand multilingual communities in Sydney, International Symposium on Bilingualism, Sydney

•Clements, C, Penney, J., Gibson, A., Szakay, A & Cox, F. (2022) Phonological and lexical conditioning of TRAP vowel length in communities of varying linguistic diversity, Australian Linguistic Society Conference, Melbourne

•Clements, C., Penney, J., Gibson, A., Szakay, A & Cox, F. (2022), Documenting durational complexity of the TRAP vowel in Mainstream Australian English, Forum on Englishes in Australia, La Trobe University,

•Jacobi, J., Rebernik, T., Jonkers, R., Maassen, B., Proctor. M., Wieling, M. (2022). Spatial and temporal variability of speech gestures during fast syllable repetition in Parkinson's Disease: an articulatory study, Int. C. on Speech Motor Control, Groningen

•Cox, F., Palethorpe, S., & Penney, J. (2022, July). Modelling dynamic features of diphthongs across 50 years of change. Paper presented at the 2nd Workshop on Sociophonetic Variability in the English Varieties of Australia, Australia.

•Gibson, A., Cox, F., & Penney, J. (2022, July). Acquisition of r-sandhi and [J] by Australian children. Paper presented at the 2nd Workshop on Sociophonetic Variability in the English Varieties of Australia, Australia.

•Penney, J., Cox, F., & Gibson, A. (2022, July). Strategies for hiatus resolution in Australian English teenagers. Paper presented at the 3rd Workshop on Sociophonetic Variability in the English Varieties of Australia, Australia.

•Penney, J., Cox, F., Gibson, A. (2022, June). HAND-raising and neighbourhood language diversity in adolescent speech in Sydney. Poster presented at 18th Conference on Laboratory Phonology (LabPhon 18).

• Penney, J., & Davies, B. (2022). Collecting quality speech data remotely: Is there an app for that? Flash talk presented at Challenges for Change Satellite Workshop, LabPhon 18.

•Ratko, L., Cox, F. & Proctor, M. (2022, December). Articulatory-Acoustic Timing relationships in Australian English vowels, Australasian International Conference on Speech Science and Technology, Australian National University, Canberra, Australia.

•Penney, J., & Cox, F. (2021, December). Short front vowels and HAND-raising in female adolescents from three areas of Sydney. Paper presented at 5th Language Variation and Change - Australia (LVC-A 5) workshop, 52nd Annual Conference of the Australian Linguistic Society, La Trobe University, Melbourne, Australia.

•Penney, J., Szakay, S., & White, H. (2021, December). [d]ey [f]ink [d]at [d]ey killin' it: Preliminary findings on dental fricative fronting and stopping in Pasifika drill rappers from Western Sydney. Paper presented at 5th Language Variation and Change -Australia (LVC-A 5) workshop, 52nd Annual Conference of the Australian Linguistic Society, La Trobe University, Melbourne, Australia.

•Shea, T., Gibson, A., Szakay, A. & Cox, F. (2021, December 7-9), Straight Talking? Straight Men's Responses to a Male Voice [Poster Presentation]. 52nd Annual Conference of the Australian Linguistic Society, Australia.

Project Reports



Visualising Voice and Speech (VisVoiS)

Our first project under the umbrella of our VisVoiS initiative is to use ultrasound technology to examine the articulation of rhotic consonants. This project will allow us to lay essential foundations future advancements for in remediation and instruction of rhotics in Australia. Dr Jae-Hvun Kim models our existing setup. We are currently in consultation with our tech team to develop a new probe stabilisation setup more suitable for children. We recently met with Prof from Sydney Tricia McCabe University to discuss tablet-based systems for clinical use.



Project update

AusKidTalk (http://www.auskidtalk.edu.au/) is an audio-visual (AV) corpus of Australian children's speech. Macquarie is one of five nodes responsible for collecting a total of 750 hours of speech from Australian children 3-12 years. The Macquarie node has completed recording more than 200 children and has begun the process of data annotation under the direction of Linda Buckley and Tuende Szalay. Details of the corpus collection have recently been presented at SST 2022 and at the LDaCA workshop on Australian corpora at ANU in July this year.

Multicultural Australian English Project Update



The aim of this project is to explore the role of ethnolinguistic diversity in the speech of AusE speaking young people. After many false starts and interruptions data collection on this project is now almost complete. We have collected audio recordings of the speech of 189 teenagers from areas of Sydney differing in linguistic diversity. Approximately 42000 items collected as part of a picture naming task have been transcribed, processed, annotated and included as part of a queryable database. We are currently processing spontaneous recordings collected as part of a conversation task. Preliminary findings have been presented at LabPhon, SST2022, ALS, at ISB14 at Macquarie University in June, and forthcoming papers will be presented at ICPhS 2023 in Prague and INTERSPEECH in Dublin in August.



Child Speech, Community Diversity and The **Emergence of Sound Change**

This is a longitudinal project examining phonetic changes in the speech of Australian children from a range of communities. We have completed data collection using an online picture naming task (Alien Adventure) delivered via Gorilla. Speech data from 150 children has been collected. Preliminary results have been presented at Forum for Englishes in Australia, ALS, NWAV, SocioPhonAus3 and SST2022. We have presented findings at ISB14 at Macquarie University in June and at ICPhS 2023 in Prague.

12 Te Herenga Waka – Victoria University of Wellington

By Sasha Calhoun

Research Activities

As we gradually emerge from pandemic restrictions and return to "normal", the phoneticians at Te Herenga Waka – Victoria University have been busy. We are working on a project looking at iconic associations of pitch according to so-called 'biological codes' (such as the Frequency Code) from a sociophonetic perspective, with the aim of better understanding how iconic (or natural) and social factors influence pitch meaning in language. The first results of this were presented at SST last year. We also have ongoing projects looking at how prosody influences sentence processing, particularly the use of contrastive stress, in L1 and L2 English and Mandarin Chinese, in collaboration with former PhD student **Mengzhu Yan**, now at Huazhong University of Science and Technology, China. There are also a number of interesting postgraduate projects underway, as detailed below.



Paul Warren has recently created a fun educational tool that will be of interest to ASSTA members. It is called PhoNZErdle, and it is a version of the popular game Wordle, but with phonetic symbols consistent with a New Zealand English variety. There is a daily version, like traditional Wordle, and a 'rolling' version for practice. He has also most recently added a spectrogram version, which adds a spectrogram as a clue (good prep for the SST dinner competition!). Link to the tool is here.

Postgraduate Students

Joy Mills is working on her PhD project looking at whether and how implicit prosody can induce structural priming, and individual differences in this priming. Joy presented at the International Max Planck Research School (IMPRS) for Language Sciences in June 2022 on 'Individual differences and processing of implicit prosody'. She is really valuing connecting with other ASSTA early career researchers as part of the ASSTA ECR/HD Network.

Jemima Agnew and Elena Heffernan are both working on Master's projects looking at how Sensorimotor Synchronisation, or tapping to the beat, can be used to get new insights into the nature of speech rhythm.

Conferences

Sasha Calhoun gave a talk on behalf of her and **Hannah White** at the 18th Conference on Laboratory Phonology, which was hosted online in June 2022. The paper, 'Mediated Iconicity: Effect of age on affective associations of uptalk and creak', resulted from Hannah's Master's dissertation which Sasha supervised. Hannah is now doing her PhD at Macquarie University.



Sasha Calhoun and Hannah White at SST 2022



Sasha Calhoun gave an invited talk in the Organized Session 'Competence meets performance: new perspectives on information structure' at the Linguistics Society of America Annual Meeting (online), in January 2022. Her presentation was 'Focus effects on memory for words and their alternatives: Evidence from Samoan and Mandarin'.

Sasha was delighted to be a keynote speaker at TripleAFLA 2022: 9th TripleA workshop for semantic fieldworkers & 29th annual meeting of the Austronesian Formal Linguistics Association, Manchester UK (online) in July 2022. Sasha presented 'The production, perception and processing of focus in Samoan', an overview of her research in this area over the past decade.

Sasha presented 'Gender attitudes affect the strength of the Frequency Code' at SST in December 2022 on behalf of co-authors Paul Warren, Jemima Agnew and Joy Mills, as well as a similar presentation at the NZ Linguistics Society conference in in November 2022. It was great to attend a conference in person and catch up with ASSTA friends.

Sasha attended ICPhS2023 in Prague in August 2023 and presented two papers on behalf of co-authors

Selected Publications

 Calhoun, S., B. Braun, J. Fletcher, P. Warren, M. Yan and O. Türk (eds., 2023). Special collection on 'Prosody and speech processing across languages and varieties'. Laboratory Phonology: Journal of the Association for Laboratory Phonology.

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- Calhoun, S., P. Warren, J. Mills and J. Agnew (2023). Uptalk and the Frequency Code: how gender affects iconic associations of pitch. To appear in Proceedings of the 20th International Congress of Phonetic Science (ICPhS), Prague, Czech Republic, August 2023.
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13 Speech Research @ UoA

By Jesin James

The Speech Research @ at the University of Auckland (UoA) constitutes a diverse and interdisciplinary group of researchers. We are dedicated to exploring various dimensions of speech research within the diverse academic environment of Aotearoa New Zealand. Our team encompasses engineers, phoneticians, linguists, and educational researchers who collaborate extensively on multifaceted speech-related investigations. You can find more information about our endeavors by visiting our website through this link.





The history of this group is strongly intertwined with the MAONZE research project and the MAONZE research group. The MAONZE research group studies sound change over time in te reo Māori and New Zealand English.

We work closely with the Communication Acoustics Research Group at the University of Auckland. We also co-design speech and language technology with Te Hiku Media, a Māori Media company in New Zealand. Some of this year's highlights for us were:

(meeting) for groups and individuals working in all aspects of Māori speech technologies was organised on 6, 7 July 2023. More details in Report 15.

LangSoc 2023: Members of the Speech @ ICPhS 2023: Three papers were Research Group are involved in the accepted to ICPhS 2023, and Catherine organisation of the annual conference of the Watson presented these papers at the linguistics society of New Zealand. Dr conference. The papers focussed on Elaine Ballard is the conference chair, Dr Parkinsonian speech, sound change in New Peter Keegan will organise the Māori Zealand English and impact of language language research symposium, along

with Catherine Watson and Justine Hui.

Interspeech: Binu Abeysinghe presented at Interspeech 2022 (See Report 16). The paper focussed on using linguistics to inform speech technology development, specifically text to speech synthesis. Māori Speech Hui 2023: An in-person hui Catherine Watson attended Interspeech 2023 and presenting research on te reo Māori speech technology development development at a satellite workshop on lesser documented languages

familiarity on speech enhancement.

Papa Reo and **Te Hiku Media:** During the last year, there has been increased engagement with the Māori Media Company –Te Hiku Media and their multilingual language platform team - Papa Reo. Papa Reo is involved in developing language platform for multi-lingual Aotearoa.

@ SST 2022: Catherine Watson was a keynote speaker at SST 2022 and focussed on Experiences with te reo Māori: some studies of science and technology. Catherine Watson also facilitated a tutorial for SST 2022 on formants. Brooke Ross and Isabella Shields also presented papers at the conference.

Daniel Cho successfully completed a Masters research with us on emotions in New Zealand English speech.

Himashi Rathnayake, Clara Zhang, Henry An, Junchen Liu and Qing Guan joined our group as postgraduate students. Louis Lefbvre from ENSEIRB-MATMECA, France joined our group briefly for an internship focussing on a te reo Māori-English bilingual speech synthesis system.

Brooke Ross presented various papers regarding her research into sound change in New Zealand English at SocioPhonAus, and SST 2022. Brooke also gave a guest lecture at the Bern University in April 2022 on *Variation and change in New Zealand's largest city: Is there an Auckland English?*. Brooke also appeared on the AM show, a New Zealand morning news and talk show to talk about changes to the New Zealand English accent.

Clara Zhang's PhD research focusses on the impact of speech enhancement algorithms on speech perception of non-native speakers. Clara presented papers regarding various aspects of this at ICPhS 2023, Inter-noise 2023, ICPhS 2022, International Congress on Acoustics 2022.

Nicholas Eng, who's PhD looks into speech enhancement algorithms for synthetic speech development, has published papers at the Acoustical Society of New Zealand (ASNZ) conference, and Asia Pacific Signal and Information Processing Association (APSIPA) conference 2022.

Isabella Shields' PhD looks into the acoustics of te reo Māori /r/. Isabella has published her findings in SST 2022 and Foundation for Endangered Languages conference 2023. Isabella was also involved in analysing the acoustics of the Kapa Haka, a Māori performance involves choral singing, dance and movements. A paper reporting the results from the analysis was published in the Journal of Voice in 2023.

Justine Hui has published various papers on the impact of room acoustics on native and non-native speakers of a language. These include presentations at ICPhS 2023, and journal papers in Acoustical Science and Technology and Applied Acoustics. Justine has also been awarded a Smith Endowment Fund to understand speech audibility and clarity in New Zealand classrooms, a Marsden Fast Start by the Royal Society of New Zealand to understand the sounds of te reo Māori in an acoustically varied world and a Meta AR/VR Grant to study elderly users' speech perception and listening effort in virtual acoustics.

Jesin James has published various papers on emotional speech synthesis, te reo Māori language technology and employing linguistics knowledge for speech technology development. These include presentations at Interspeech 2022, and journal papers in Sensors and Language Resources and Evaluation. Jesin is part of the research team that secured a grant from the University to develop explainable artificial intelligence for detecting depression by using speech, along with other biosignals. Jesin has also worked with Ake Nicholas (University of Auckland) and Roland Coto (Dartmouth University) to develop the first Cook Islands Māori synthetic voice. The team is excited to demo the voice in the Cook Islands soon.

Catherine Watson has published papers on topics such as the acoustics of Kapa Haka, emotional speech, impact of room acoustics on speech intelligibly, speech enhancement, acoustics of New Zealand English and te reo Māori and building speech technology for New Zealand English and te reo Māori.

Peter Keegan has published papers on topics such as the acoustics of Kapa Haka, acoustics of te reo Māori and understanding Māori and non-Māori speakers understanding of te reo Māori specifically focussing on the implicit knowledge of non-Māori speakers living in New Zealand. Peter is also part of team that was awarded a Marsden grant by the Royal Society of New Zealand to investigate the latent knowledge of Māori words by non-speakers of Māori both from NZ and overseas.

Both **Catherine Watson** and **Peter Keegan** are involved in developing an automated te reo Māori assessment system for assessing pepeha (a te reo Māori introduction). The pepeha is submitted as an audio file by all students taking basics of te reo Māori course at the University of Auckland. The automatic assessment is expected to simplify the marking load on the lecturers of the course.

Elaine Ballard has been publishing papers on the adaptation of English language assessments into other languages such as Samoan and Tongan. Most recently she co-authored two papers with speech language therapists on speech development in te reo Māori and Samoan for the forthcoming Oxford Handbook of Speech Development. Other research areas include her collaborations with Catherine Watson and PhD candidate Brooke Ross on sound change in New Zealand. Dr Ballard is also the chair for the New Zealand Linguistics Society annual conference to be held in November 2023.

Overall, the Speech Research @ UoA has been keenly exploring various aspects of speech and language technology, and we hope to continue these explorations in future.

14 Communication Acoustics Lab

By Justine Hui

Since our last newsletter, at the Communication Acoustics Lab (PI: Yusuke Hioka) on the project investigating the effect of spatial separation in different acoustic environments, we managed to collect more data in Japan with our Japanese collaborators over at Sophia University, Seikei University and Showa University using a similar methodology to examine the effect of different levels of familiarity on using spatial cues to understand speech in noise.

Recently our team was awarded with a Meta VR/AR grant (PI: **Justine Hui**) to examine how elderly listeners perceive speech in virtual acoustics and we are currently recruiting a PhD candidate to join our team.

The link to the Communication Acoustics Lab webpage is <u>here</u>.





Did You Know?

Did you know that the first SST conference was held in Canberra in 1986?

Did you know that the first time Interspeech was hosted by Australia it was called ICSLP- International Conference on Spoken Language Processing?

Did you know that ICSLP was held in Sydney in 1998?

Māori Speech Hui 2023 15By Jesin James, Himashi Rathnayake

Research Events, Conferences and Awards

Te reo Māori, the official language of Aotearoa New Zealand and the country's only indigenous language, lacks significant representation in speech conversational agents such as Siri due to limited resources. As a result, there is a lot of space for advancement in Māori language and speech technologies. The purpose of the Māori speech hui, held biennially, is to bring everyone involved in Māori projects to discuss ongoing projects, share ideas, identify common challenges, and encourage collaboration and advancement in te reo Māori.

Speech Research @ UoA presents...





July 6, 7 2023

In 2023, the University of Auckland hosted the Māori Speech Hui for the third time. The hui went on for two days, on July 6th and 7th, at the city campus, Faculty of Engineering, The University of Auckland. The hui was organized by the Speech Research @ UoA group, Jesin James, Catherine Watson, Peter Keegan, Elaine

Ballard, Justine Hui and Isabella Shields are on the organising committee. Other members of the research group also supported the organisation of the hui. The Faculty of Education and Social Work, The University of Auckland, sponsored the event.

Various organizations, including Waipapa Taumata Rau - The University of Auckland, Te Whare Wānanga o Waikato - The University of Waikato, Te Whare Wānanga o Waitaha - The University of Canterbury, Te Herenga Waka - Victoria University of Wellington, Te Hiku Media, and Te Tāhuhu o te Mātauranga -Ministry of Education were participated in the hui. Each of them presented their current and future projects, which were followed by feedback from other participants.

Researchers from the University of Auckland presented their ongoing efforts, which include Māori speech recognition, Māori text-to-speech development, Māori-English code-switching, Māori emotion detection, Māori Pronunciation Feedback, and Māori Phonetics, Acoustics, and Language Assessment.

Te Hiku Media talked about Māori data sovereignty, which discussed Māori's inherent rights and interests related to collecting, owning, and utilizing Māori data. They also discussed their Māori speech recognition tool, part-of-speech tagging, text-to-speech synthesis, and bilingual speech recognition, as well as the corpora used to construct such tools, model training process, and architecture. Furthermore, they talked about the current limitations of their tools and how they plan to improve them in the future.

The University of Waikato presented about a developmental sociolinguistics approach to cultural nuance and social identity in everyday Kiwi words. The Victoria University of Wellington also elaborated on their continuous efforts on the impact of language familiarity in bilingual processing of speech. Furthermore, the University of Canterbury presented about understanding the nature of word grammar through te reo Māori.

During the speech hui, tea breaks and lunch breaks were provided, contributing significantly to the development of relationships among the participating communities. At the end of the hui, the majority's opinion was that the topics presented were very interesting and important for the future of te reo Māori. As a result, it was decided to continue holding the hui in the coming years.



Participants of Māori Speech Hui 2023.



ASSTA at INT



16 At Interspeech 2022 Virtually by Binu Abeysinghe

Last year, I had the opportunity to attend Interspeech 2022. I was, at the time, a masters student working with Jesin James, Catherine Watson and the speech group @ UoA. We had thought up an idea to evaluate a deep learning models ability to fine-tune its voice between speakers of two different accents of English for us to better understand and ultimately optimise the process.

As the concept showed promise, I was encouraged to write a submission to Interspeech 2022 by my supervisors along side finishing my thesis. Being new to both the academic and speech side of machine learning I initially didn't realise the accomplishment of being accepted, but after further reading and chats with the speech group I realised the value of this achievement.

Our paper was titled "Visualising Model Training via Vowel Space for Text-To-Speech Systems". The paper took a pretrained American speech model trained with the LJSpeech corpus and fine tuned it to New Zealand English. The substantial findings of this study came in analysing how the vowel space of the synthetic voice changed as it was fine tuned to another accent. For more information about this study, you can find it <u>here</u>.

Interspeech 2022 took place in Seol, South Korea. Although I was generously afforded a travel grant by the Interspeech committee, due to my financial circumstances at the time, I was unable to attend in-person. As such, I attended the conference virtually through their "Gather" Platform.

Interspeech 2022 took place in Seol, South Korea. Although I was generously afforded a travel grant by the Interspeech committee, due to my financial circumstances at the time, I was unable to attend in-person. As such, I attended the conference virtually through their "Gather" Platform.

This platform was one of the highlights of my virtual attendance. You would sign in with the provided ID and create an avatar akin to early Pokémon Gameboy games, as shown below:



From there, you would be placed into a virtual 2D lobby of Interspeech 2022 where you could move freely around and interact with other people posters and presentations. The lobby was as below:

INTERSPECE NISTURAL POSTER SESSIONS S: SHOW AND TELL NISTURAL POSTER SESSION S: SHOW AND TELL S: SHOW AND TELL

You could move between rooms with the arrow keys and interact with posters and presentations to have images and video appear on your screen when you do.

What's cooler is when the platform has proximity based voice chat, so when you get close to other participants you can hear what they're saying (there are also private chats). If you wish to take it a step further, you can turn on your web cam and when your avatar was close enough to their, they would be replaced with the camera feed.



I was given my own booth like the one above. When you enter a booth, your 2D view changes to a rendered 3D one, and you are able to view presentations, posters and slides made by that booths researchers about their project. Additionally, each presenter has fixed times when they should be present in their booth so that they can answer questions and explain concepts.

Although this experience would pale in comparison to being able to attend in person (which I hope to do eventually) it is really a statement to how the Pandemic and rapid innovation of streaming technology has really helped to improve virtual events. Interspeech has helped both our paper and idea gain international recognition, being cited by Samsung Research, South Korea. We hope to add a new perspective on modern machine learning approaches that incorporate linguistics knowledge to push the capabilities of deep learning further.

Special thanks to my supervisors Jesin James and Catherine Watson and the speech group for encouraging and guiding me to take this opportunity.

SST2022

The 18th Australasian International Conference on Speech Science and Technology

December 13th-16th, Canberra, Australia



17 About SST 2022 by Rosey Billington

The 18th Australasian International Conference on Speech Science and Technology (SST2022) was held from December 13th-16th in Canberra and online. It had been four years since the last SST meeting, after the COVID-19 pandemic prevented a 2020 event from taking place.

SST2022 was a wonderful opportunity for the Australasian speech science and technology community to reconnect, share emerging findings, reflect on developments in the field, and welcome new students and colleagues attending SST for the first time. Attendees were treated to keynote presentations from Paul Foulkes ('Dead clade walking? On the survival prospects of the forensic phonetician'), Catherine Watson ('Experiences with te reo Māori: some studies of science and technology') and Phil Rose ('The best of tones, the worst of tones – tonal complexity in the Wu dialects of East Central China'). Paul and Catherine also offered tutorial day sessions respectively on 'An introduction to forensic speech science' and 'Formants: The power and the pitfalls', joined by additional tutorial day presenters Helen Fraser and Debbie Loakes on 'Specifying new scientific knowledge required by forensic applications' and Márton Sóskuthy on 'Generalised Additive Modelling for linguists'.

Amidst oral and poster presentations on a range of topics across speech science and technology, attendees also enjoyed presentations from Márton and Ghada Khattab as keynote speakers at the SocioPhonAus3 satellite event taking place at SST, and attended thematic sessions on 'Multi-disciplinary approaches to forensic speech science: from different starting points to a shared goal' (organised by Yuko Kinoshita) and 'Sociophonetic explorations of ethnic and ethnolectal variation' (organised by Catherine Travis).

Congratulations again to recipients of the ASSTA New Researcher Award: Angelo Dian, Hannah White and Yanping Li. Thankyou to all presenters, attendees, reviewers, volunteers and supporters for contributing to a successful event. For those who were unable to attend, the SST2022 proceedings can be found on the ASSTA and SST2022 websites. We look forward to seeing you at the next SST meeting!

SST2022

ASSTA at

The 18th Australasian International Conference on Speech Science and Technology

December 13th-16th, Canberra, Australia



18 From MARCS Institute by Yanping Li

I am a Ph.D. candidate from the MARCS Institute for Brain, Behavior and Development, Western Sydney University, Australia. My submission [pdf] entitled L2-Mandarin regional accent variability during lexical tone word training facilitates naïve English listeners' tone categorization and discrimination was accepted as an oral presentation by the 18th Australasian International Conference on Speech Science and Technology (SST 2022). I am grateful and honoured that it was selected for the ASSTA New Researcher Award along with the papers by Hannah White [pdf] from Macquarie University, and Angelo Dian [pdf] from The University of Melbourne.

I participated in SST 2022 in person, which was held at the Research School of Humanities and the Arts, Australian National University, Canberra, Australia, from the 13th to 16th December, 2022. As a Ph.D. candidate of the COVID-19 generation, I could only attend international conferences virtually from 2020-2022. SST 2022 was the first face-to-face international conference for my Ph.D. research project, and my memory about in-person conferences prior to 2020 had become blurry. I was excited about attending SST 2022 in person. On the other hand, I fretted about my presentation due to a lack of experience giving live oral presentations.

It was a wonderful experience to attend SST 2022, and it was even more special that my oral presentation was received so well.

One of my research interests is about how to document tone deviations triggered by accent variability, and I used Growth Curve Analysis (GCA: Mirman, 2014) to model f0 movements across accents. I attended the tutorial presented by A/Prof. Márton Sóskuthy from the University of British Columbia on Generalised Additive Modelling (GAM, e.g., Sóskuthy, 2021) for Linguists, which was clear and practical. The tutorial has enabled me to model my data using GAM, given that formant and f0 movements are both dynamic time-course data. I was encouraged that the statistical results using GAM were the same as those I had found with GCA as reported in my ICPhS 2023 paper. In addition, his tutorial helped me with understanding papers about vowel productions, particularly using GAM.

I presented my work in the morning session of the 16th December 2022. While there were not as many audience members as I expected for the L2 Perception session, I received a good question from Dr. Rikke Bundgaard-Nielsen about the high accuracy of tone discrimination in the post-training test by both single and multiple accent groups in my paper. I explained first, and my principal supervisor Prof. Catherine (Cathi) Best added more of the presentations was discussed with comments from the perspective of several questions, my main task was to Perceptual Assimilation Model (Best, keep up with the session timeline. It 1995). Thinking about Dr. Bundgaard- became much easier with assistant of Dr. Nielsen's question and Prof Best's follow- Rosey Billington and one volunteer. A up comments has inspired me to invest good session chair may also be like a consideration more development of my interpretation of English listeners' tone perception in the journal paper that we are working on now. At first I was upset for not answering the that kind of facilitator by acting as a question completely by myself, in the session chair at SST 2022. I appreciate mindset that I did not do a good job if my the opportunity that SST 2022 offered me supervisor(s) had to add comments to my for this answers. But then I shared this thought experience. with Prof. Catherine (Kate) Stevens and Dr. Antonia Götz at MARCS when both of SST 2022 also fulfilled two things on my them asked me about my presentation at SST 2022. Kate encouraged me that Australia, i.e., travelling by train and supervisors and their students worked as visiting Canberra. MARCS is located in a group to present their work, and it was New South Wales, Australia, and I more important that the question get travelled from Sydney Central to answered clearly by the team, and not so important who made which point in the answer. Mindset changed!

the Prosody session. As a beginner of chairing one session at an international conference. I consulted Cathi about how to be a good session chair in one of our biweekly meetings before the conference. She mentioned that the main role of a session chair is to serve speakers and audiences. To achieve this goal, she advised me to (1) choose a seat where the speakers can easily see me showing time warnings, (2) let audience members ask questions first, (3) remind speakers to repeat questions before answering if there were online audience members, and so on. Since most of the speakers in the Prosody session were senior researchers, and each

to theoretical facilitator to smooth discussions between speakers and audiences. I felt I would not be able to do that due to the lack of experience, but I took the brave step to be enabling and enriching

personal and professional to-do-list in Canberra by train. I saw splendid countryside views, which made me feel peaceful. While I did not see a sunset over Canberra city and the Brindabella Hills After the L2 Perception session, I chaired from the Mount Ainslie as I had hoped, I saw the foundation in Burley Griffin Lake while heading to hotel the first day in Canberra and I also had the conference dinner at the National Museum of Australia, definitely a plus! Since Canberra is a well-designed city and it does not take very long to get there from Sydney, I will visit Canberra again in the near feature. Last but not least, I appreciate the New Researcher Award from ASSTA and the Candidate Research Funds from the MARCS Institute, which financially supported me to participate in SST 2022 in person. Without their supports. I could not have such a wonderful experience at SST 2022 and in Canberra, Australia.

ASSTA New Researcher Award 19by Angelo Dian

SST 2022 was the very first international conference I had the opportunity to present at. I was happy enough to have my paper accepted – let alone being awarded the ASSTA New Researcher Award!

Let me give you a bit of context. I am an international student from Italy currently undertaking a PhD at the University of Melbourne, researching the acousticphonetic correlates of the long-short consonant contrast in Italian. Despite being enrolled at Melbourne from the start in early 2021, I began my PhD journey in Italy, completely online, due to the COVID 19 travel restrictions. Essentially, I spent the entire first year of my PhD working from the spare bedroom of my apartment, having the chance to speak only to my supervisors and a handful of other people at the University through a computer screen. It was a lonely – but on the other hand very productive – first year.

When I finally arrived in Melbourne things started to speed up and I could soon use the data I had collected in Italy to test some hypotheses I had been formulating. The time was ripe to put together a conference paper, submit it, and hope for the best. The paper was titled "Stop (de)gemination in Veneto Italian: The role of durational correlates", and the conference I chose for its submission was SST 2022, held at the Australian National University in Canberra between 13th an 16th December 2022. As a new researcher I was eligible to apply for the ASSTA New Researcher Award, which I did. To my utter delight, I was later notified that I had been accepted for an oral presentation, but also chosen as one of the recipients of the award! The award was handed over to me at the conference dinner, where many researchers and esteemed phoneticians from different parts of the world were present. It was a true honour.

Being able to meet researchers face-to-face after the alienating years of COVID 19 was almost incredible. The conference was a great place to build connections, especially for a new researcher like myself, and learn about the latest trends in phonetic research. I found the tutorial day extremely useful, and I think I will use the statistical methodology that was presented (particularly GAMs) in my future studies. Last but not least, presenting my results to such a diverse, expert audience and getting many interesting questions was a fantastic feeling. I hope I become a regular SST attendee in the future editions!

20 SST New Researcher Award by Hannah White

The 18th Australasian International Conference on Speech Science and Technology was held from the 13th to the 16th of December 2022 in Canberra. I was very fortunate to be able to attend this conference in-person thanks to the support of the SST New Researcher Award. This was, in fact, the first in-person conference that I had attended since beginning of my PhD at the start of 2020! I am doing my PhD at the Department of Linguistics, Macquarie University. It was certainly a relief to be presenting at a respectable hour (compared to my 3am talk at INTERSPEECH 2021!). It was such a great experience to be surrounded by such talented researchers in our field and I learnt a great deal.

The conference began with a day of tutorials. I was torn about which sessions to attend but finally decided to go to the interactive tutorial on Generalised Additive Modelling presented by Márton Sóskuthy and Catherine Watson's tutorial on formant analysis. Both sessions were very interesting and eye-opening.

We were spoilt for choice throughout the conference by the number and variety of talks. One of the highlights of the conference for me was the special session on sociophonetic explorations of ethnic and ethnolectal variation. The format of the session meant that after four fascinating talks, an insightful discussion ensued among attendees which I'm sure could've continued far past the 25-minute allocated timeslot.

Another highlight for me was the social aspect of the conference. It has been difficult to make connections with other researchers over the past few years. The ASSTA Postgraduate & ECR Network hosted a social event at the student bar on the evening of Day 2 of the conference. This was a fun opportunity to meet and connect with other researchers who may be going through similar experiences in our early careers. I also attended my first conference dinner (this really was a conference of firsts for me!) where I got to experience the famous spectrogram reading competition.

I presented my research on the influence of pitch and speaker sex on the identification of creaky voice by female listeners on the third day of the conference. We used a highly controlled set of manipulated stimuli to explore how accurately listeners identify creak in male and female source voices with different pitch ranges. Our findings suggest that listeners' expectations of a speaker's pitch range given their sex has a significant influence on how well they identify creaky voice.

At first, I was quite nervous to be standing in front of an audience with a microphone. However, I actually found the experience to be very enjoyable and it was exciting to be able to share my research with others in the field. I received a lot of insightful feedback that has been quite inspiring.

Overall, the conference was a fantastic experience, and I gained a lot of valuable knowledge and insights from attending the various sessions and interacting with other researchers and students in the field. I look forward to attending many future conferences!



ASSTA at



20th International Congress of Phonetic Sciences (ICPhS)

August 7-11, 2023 Prague Congress Center, Czech Republic



21 ICPhS 2023: A Quick Glance

ASSTA members flew all the way to Czech Republic to attend ICPhS 2023. Comments from many ASSTA members indicate that it was a great learning experience and an opportunity to interact with others in the research community. We will share the reports from ICPhS in the next edition of the newsletter.

For now, below is a photo of some ASSTA members at ICPhS 2023. There were other ASSTA members at the conference but we were unable to get everyone together at the same time.



Some ASSTA members at ICPhS 2023: Watson, Katie Jepson, Yanping Li, Tuende Szalay, Hannah White Felicity Cox, Catalina Torres, Shuting Liu

Back row from left: Andy Gibson. Josh Penney, Olga Maxwell, Angelo Dian, Catherine Front row from left: Canaan Lan, Sasha Calhoun, Gerry Docherty, Marija Tabain,



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