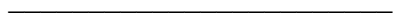ASSTA NEWSLETTER

EDITORIAL

Welcome to the bumper end of the year issue of the ASSTA Newsletter for 2007. In this issue you will find several conference reports from successful ASSTA travel awardees, a report by the ASSTA President, a lab profile of the Linguistics and Applied Linguistics department at the University of Melbourne, and information about upcoming conferences.

Thanks also to those members who have sent me conference reports for this issue. If you have received an ASSTA travel award, please be sure to send along your conference report. Remember, this newsletter is a forum for you to share information about your travels, research and labs. Please consider submitting something for the next issue.

Girija Chetty

Contents

ASSTA INFORMATION

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Copy should be sent to the newsletter team via email as plain text or as an attachment in Rich Text Format (RTF) or Microsoft Word (DOC).

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PRESIDENT'S REPORT

There are numerous contenders for the specific ability that defines the human species, but surely high up on the list must be speech. There are, of course, many prerequisites for oral speech – lowered larynx, large brain, long gestation period etc., but over and above these sine qua non, what is it that caused human speech to emerge?

Again many theories that have been put forward. A recent one of some interest is that by Dean Falk (Falk, 2004). She suggests that because human infants, unlike their primate counterparts, do not develop the ability to cling to the mother, it was necessary for mothers to put the baby down on occasions when foraging for food. As a consequence it is suggested that mothers who reassured and controlled their infants from afar via utterances while still successfully gathering food were selected for, and distinctive prosodic patterns became conventionalised and associated with meanings. Falk cites evidence from primates and from infant-directed speech in humans, and while such can only ever be converging rather than definitive, it is interesting to consider some consequences of this 'putting the baby down' hypothesis.

This hypothesis squarely puts the origins of language in speech, acoustic utterances that convey meaning initially through prosodic variations. Thus speech patterns start to become language rather than language (and thereby speech) evolving with a primarily linguistic intent, such as naming kin, animals, weather conditions, etc. These prosodic variations (and exaggerations) are heard in infant-directed speech (IDS) or "motherese". IDS has (at least) three distinct components. The first two, attentional and affective, appear to be conveyed through pitch heightening and modulation and possibly other acoustic

variables and change over development – IDS to newborns is more comforting and soothing, whereas it is more directive to the more linguistically aware 9-month-olds. The third, didactic, component is evident in phonetic hyperarticulation of vowels in IDS compared with adult-directed speech and appears to emerge around 6 months (Burnham, Kitamura & *Vollmer-Conna, 2002; Kitamura & Burnham, 2003).*

What are the implications of this? If Falk is correct, it appears that there may be some echoing of phylogeny in mothers' speech to their infants, and in infants' receptivity to speech, though this, like all phylogeny-in-ontogeny theories, is difficult to prove. It may also be the case that early languages were more based on pitch variations as in tone and pitch-accent languages than on specific spectral variations. Finally, special speech registers such as IDS may be seen as tapping some distinct communication stream that uses and is related to formal language, but is different from it. In this regard, the study of special speech registers may tell us things about speech that formal studies of language cannot. For learning about the features of speech that convey emotion (so that we may teach machines to respond to emotion in automatic speech recognition, ASR, systems) we may

be well advised to concentrate perhaps on IDS to very young infants, on patient-directed speech (by nurses), and lover-directed speech, and pet-directed speech; and if we want to find out more about the didactic features of speech (again to train ASR systems) we may be better advised to concentrate on IDS to older infants, and foreigner-directed speech, both of which have vowel hyperarticulation.

PostScript: There will be some quite different ideas about the 'evolutionary emergence of language', and of 'music and evolution' on the first day of this year's Human Communication Science (HCSNet) Summerfest* and, in addition to various other aspects of interest to ASSTA members, the International Conference on Music Communication Science (ICOMCS), and a Forensic Speaker Recognition workshop, FSI not CSI: Perspectives in State-of-the-Art Forensic Speaker Recognition, run by our very own, Dr Phil Rose. I hope to see you there.

- See the Summerfest program at http://www.hcsnet.edu.au/summerfest07

CONFERENCE REPORTS

Dr. Shunichi Ishihara

The Australian National University

Report on the ASSTA Research Event
Award for 2007 JSAA Conference

The E-teaching and learning panel was organised in the "communication, language and linguistics" stream as part of the fifteenth biennial Japanese Studies Association of Australia (JSAA) Conference which was held in Canberra from 1-4 July, 2007. The purpose of this panel was to bring together people involved in E-Teaching and Learning in order to 1) exchange information, 2) establish/develop closer ties between the technology community, the language teachers/ learners' community and the education industry.

Many speech technologies have been applied to the area of language teaching/learning and many of them are potentially applicable. To this end, Dr David Grayden, University of Melbourne and Dr Chiharu Tsurutani, Griffith University were invited to talk about 'Speech Technology and Language Teaching/learning'.

Dr Grayden's presentation was entitled 'Current speech technologies and their applications to language learning/teaching', introducing current speech technologies which have high potential in the areas of language learning/teaching while explaining basic knowledge of speech technologies in plain language. Dr Tsurutani's talk was about the use of an automatic speech recognition system for pronunciation training and assessment in Japanese. Her talk included a demonstration of the system which was developed by her team.

Dr David Grayden giving his talk at
the 2007 JSAA Conference

Many participants on this panel are Japanese language educators from secondary and tertiary institutions, and they are very keen to find out

what sort of technologies they can apply in their teaching practice and what sort of technologies may be available in language teaching/ learning in the future. In various ways, I believe that the talks given by Dr Grayden and Dr Tsurutani were very useful and enlightening, having broadened the view of the participating language educators.

Despite the fact that language teaching/learning is one of the areas where speech technologies can make a larger contribution, unfortunately there has not been much communication between the speech community and the language teachers' community in Australia. I am very happy to see more interaction between these two communities because one of the comments from the audience was about the importance of liaising between these two communities.

Gordon McIntyre
Australian National University

Report on the 12th International Conference on Human-Computer Interaction, July 2007

The 12th International Conference on Human-Computer Interaction took place in the Beijing International Convention Centre, just next to the Bird's Nest Stadium, home-to-be for the

2008 Beijing Olympics, nine kilometres from Tiananmen Square to the south, and eighty kilometres from the Great Wall.

The scale of the conference hadn't really dawned on me until now – two thousand, three hundred people from seventy-two countries. Looking through the programme, I was fighting fatigue to find the timeslot for my talk "Towards Affective Sensing" amongst the two hundred or so other accepted papers. Even more overwhelming was choosing which presentations to attend from the nine concurrent, fifteen-minute presentations running from 8:00 am to 18:00 pm over the next three days.

The highlight of the event for me was the keynote presentation by Takeo Kanade, one of the world's foremost computer vision researchers and probably one of the few people older than me at the conference, receiving his PhD in 1974. His most awe inspiring demo was the camera system that he implemented at the Raymond James Stadium, home of the NFL's Tampa Bay Buccaneers, University of South Florida Bulls. Continuous tracking and focusing by thirty cameras spaced around 360o of the roof top allow a "Matrix effect" replay and perspective replays to be shown from around thirty different points of view. Check it out at

http://www.ri.cmu.edu/events/sb35/tksuperbowl.html.

The presentation of his other projects was equally impressive and can be found at http://www.ri.cmu.edu/people/kanade_takeo.html - the humanoid robot that autonomously navigates, real-time, in dynamic, unpredictably changing environments; the optimally designed, tear-off yogurt lid; and a statistics driven approach to improving the design of children's playgrounds (you collect statistics of all of the accidents around the State and then you re-engineer the objects most commonly involved in injuries). Like most foremost scientists, he humbly and happily shared his vision for the future.

His main prediction, which should be of comfort to the older adults in the aging population, is that future computing will not automate, but rather fill the gap between, Intent and Capability, i.e. a person's Need = their Intent minus their Capability. One arm of his research is now entirely focused on this cause. As the keynote presentation neared its close, the thought in everybody's mind must have been how the organisers planned to serve two thousand dinners at once. After much handclapping, we closed the session and lined up, Chinese style, in front of the closed doors of the dining facility.

Shortly thereafter, the doors opened to reveal a stadium-sized area with buffets atop about twenty long tables. There were few tables to sit at, but the interaction with other attendees was enriching. Overall, the conference was a rewarding experience. They say that you only need to take away one good idea from these gatherings and I took away many.

Kimiko Tsukada
Macquarie University, Sydney

Report on the 16th International Congress of Phonetic Sciences, August 2007

The 16th ICPhS (International Congress of Phonetic Sciences) was held in Saarbrücken, Germany, August 6-10. I was fortunate to receive an ASSTA Travel Award to attend this great conference (http://www.icphs2007.de/). This is probably the biggest phonetics conference, which is held every four years and attracts a huge crowd.

More than 500 papers (including 2 keynote addresses, and 12 special, 10 oral and 8 poster sessions) were presented over five days, covering a wide range of topics such as prosody, speech production/perception, first/foreign language acquisition, acoustics and many

more. The way in which oral sessions was conducted was regulated punctually with the use of the gong. I presented a poster entitled "Cross-language perception of word-final stops: Comparison of Cantonese, Japanese, Korean and Vietnamese listeners" coauthored with Thu T. A. Nguyen, Rungpat Roengpitya and Shunichi Ishihara. This is a topic we have been investigating for the past couple of years. It was a very crowded and busy poster session for me. I was pleased that many people viewed and commented on our poster.

A notable difference between this meeting and previous ones is that acceptance/rejection was based on full papers (4 pages) and not abstracts and the papers were assessed via the double blind review process. I think this makes the review process fairer, because reviewers' judgements will not be influenced by who the authors are. It was reported that 351 reviewers were involved in the review process and 66% of papers were accepted from 708 papers submitted for the regular sessions. Another feature is, at the time of writing this report, papers are downloadable on the conference website for those who are interested but did not attend in person. This makes papers more widely accessible.

The weather was not too great and the summer in Saarbrücken was as cold (or warm) as the winter in Sydney, at least during the conference. A BBQ party was held on a chilly, rainy evening, but the organizers did a very good job of making the venue really comfortable with lots of seating space in a relaxed atmosphere. Although we were not lucky with the weather, it was a big relief for many attendees that a dreaded train strike did not eventuate. The next ICPhS will be held in Hong Kong. It will be the very first meeting in Asia, attesting to a truly international orientation of this conference. They seem to be moving in the right direction, so hopefully one day the conference will come to Australia.

David Dean
Queensland University of Technology, Brisbane

Report on the Interspeech 2007 and AVSP 2007 Conferences

I recently attended two speech related conferences in Europe. The first conference was the Interspeech 2007 conference in Antwerp, Belgium, and the second was the International Conference on Auditory-Visual Speech Processing (AVSP) 2007 near Hilvarenbeek in the Netherlands. Both were good

experiences and will be helpful to my research.

After a lovely 20-hour flight from Brisbane, with stop-overs at every corner of the globe (it seemed), I arrived in Antwerp for the eight annual Interspeech conference. The Interspeech conferences replace the Eurospeech and ICSLP conferences, which used to alternate year-by-year. It is now considered taboo to mention these earlier names, as it is just Interspeech - at least this is what we were told at the welcome lecture.

Although speech is a fairly focused area of signal processing, there is still a lot of topics that can be covered under the umbrella of Interspeech conference, and some of them weren't of much interest to me. However, I did manage to attend a number of sessions on most of the 5 days of the conference. I was a little disappointed that my area of research, multi-modal speech processing, had it's only oral and poster session on at the same time! That was quite annoying, but I did manage to see most of both sessions, even though I was presenting an oral paper titled "*Fused HMM-Adaptation of Multi-Stream HMMs for Audio-Visual Speech Recognition*" in one of them.

in one of them.

In particular I found some of the research into recognising speech with infrared sensors by Bo Zhu at MIT interesting.

The social program of Interspeech was quite nice, with lots of free food and Belgian beer available at various social events on most of the nights of the conference. Entrance to the Antwerp Zoo, next door to the conference venue, was also included in the conference registration, although all those animals in such a small area seemed a little sad to me.

On the final day of the Interspeech conference, I had to pack my bags and catch an hour or so train to Tilberg, Netherlands where I could catch an expensive taxi to Kasteel Groenendael in Hilvarenbeek for AVSP 2007. It probably would have been nice if AVSP had arranged a shuttle bus, as the taxi to Hilvarenbeek cost more than the train trip from Belgium, although I did get to share the cost with some other attendees on the way back.

The AVSP 2007 conference was a small workshop-style conference specifically devoted to my area of research. It focused on human perception as well as automatic speech research, which is more my style. I got to see a lot of interesting research at the AVSP workshop, although did seem to be a little human-perception heavy. However,

I found the studies of how humans do what I am trying to perform with computers provided a good perspective on my research that I don't normally encounter. Although even further away from area of research related to my paper in the conference titled, "*Weighting and Normalisation of Synchronous HMMs for Audio-Visual Speech Recognition*", I found invited speaker Asif Ghazanfar's talk on speech perception in monkeys (that is monkey-speech perception) to be very well presented and quite interesting.

Kasteel Groenendael is Philip Electronic's executive training centre just outside the small village on Hilvarenbeek. Seeing what their executive training centre is like, I don't think I'd mind working for Philips. Everything was provided for us at the workshop, and I'd probably even say it was worth losing my weekend. I also got to meet and discuss research with a lot of interesting people over breakfast, lunch and dinner over the two days, and I hope to keep in touch with many of them.

Finally, I'd like to thank QUT and ASSTA for supplying the funding to travel to Europe and attend these conferences.

Yuko Kinoshita
University of Canberra

Report on 16th annual Conference of the International Association for Forensic Phonetics and Acoustics, July 2007

I attended the 16th annual conference of the International Association for Forensic Phonetics and Acoustics (IAFPA 2007) from 22-25 of July 2007. It was held at the College of St. Mark & St John, Plymouth, UK, in the middle of the UK floods. Luckily Plymouth itself was not flooded, but it certainly made my train trip from London to Plymouth more challenging than I would have liked.

This was the first time I attended an IAFPA conference, mostly due to its awkward timing in the second week of the second semester, but it was extremely interesting; clearly I have been missing out. This was a small conference with only 45 delegates, but everyone was in the area of forensic speaker identification research and/or practice. Most experts in forensic speaker identification in Europe attended. It gave me a great opportunity to see what sorts of issues practitioners in other countries are tackling and what kind of approaches they are taking. Everyone was very interested in just about everyone's presentation, creating a vibrant, friendly, and

intellectually stimulating atmosphere. My presentation *"Beyond the long-term mean: multivariate likelihood ratio based FSR using F0 distribution parameters"* was well received, and I made a number of useful contacts for future research.

The only disappointing thing for me (other than it being so cold and wet) was that very few speech engineers were present at this year's IAFPA. As my expertise is focused in linguistic phonetics, I was looking forward to hearing about the state of art in the "other side": automatic speaker recognition. However, it has been decided that IAFPA 08 will be held at Ecole Polytechnique Federale de Lausanne, in Switzerland, where there is strong automatic speaker recognition research, which should make next year's IAFPA even more useful for me. I don't know if I can make it, but I certainly try my best to get there.

I am very grateful for the financial assistance that ASSTA gave me.

Aik Ming Toh
School of Electrical, Electronic & Computer Engineering,
The University of Western Australia

Report on Interspeech 2007 Conference

I had the opportunity to attend the Interspeech 2007 conference in Antwerp, Belgium. The ASSTA Travel Award supported my travel expenses to the conference. Interspeech 2007 is the eighth conference in the annual series of Interspeech events. The conference was organized by partners from the Netherlands and Belgium under the sponsorship of the International Speech Communication Association (ISCA). Interspeech 2007 took place from the 27-31 August 2007.

I left Perth on 25th August and arrived in Antwerp on 26th August. The next day, 27th August, I attended the tutorial session on "The modulation spectrum and its application to speech science and technology".

The tutorial was organized by Steven Greenberg, Les Atlas and Hynek Hermansky. Steve started with "The history and biology of the modulation spectrum" and Les continued with "New theory insights for modulation analysis and filtering of speech". Hynek concluded the tutorial with his

presentation on "Applications of modulation spectrum to speech technology". The tutorial was attended by participants from diverse backgrounds. I gained valuable knowledge and insights on the theory of modulation spectrum and its application. However, the tutorial would be more engaging for me if there was more information on application and technical aspects.

Interspeech 2007 was officially convened on 28th August. It started with an address from ISCA president, the vice-chancellor of University of Antwerp and the Interspeech 2007 organizing general chair. Victor Zue was announced as the ISCA medalist for 2007 and he presented the plenary talk "On organic interfaces". The committee has done a good job with the visual aids. Both the speaker's image and power point presentation were projected onto the screen simultaneously. This enabled the audience to capture the body language of the speaker and view the presentation at the same time.

In addition, all participants of Interspeech 2007 were given free access to the Antwerp Zoo throughout the conference. This made the Interspeech experience much more enjoyable as participants were able to walk around the zoo at their convenience. The only limitation was the extremely slow internet access at the conference centre.

I presented my poster co-authored with Roberto Togneri, and Sven Nordholm on "*Feature and distribution normalization schemes for statistical mismatch reduction in reverberant speech recognition*" in the afternoon. The session on "Robust ASR I" attracted many researchers and academics as well as representatives from the industry. The poster session took 2 hours and I had the opportunity to engage in discussion with the participants.

The response has been encouraging. Valuable feedback and insights have also been offered by academics. I was delighted to have conversation with several prominent academics about my poster. The feedback will help me in improving my thesis and future publication. In the second session, I attended the poster session on

"Speech analysis" and "Spectral analysis, formant and vocal tract models".

The second day started with a plenary talk by Sophie Scott. She presented "*The neural basis of speech perception - a view from functional imaging*". Professor Stern gave a captivating and interesting talk on polyaural array processing in reverberant environments.

Interspeech 2007 has given me a valuable and rewarding experience. The trip was also meaningful as it was my first travel to Europe as well as an Interspeech conference. I would like to thank ASSTA for supporting the travel with financial assistance.

Marco Kühne
School of Electrical, Electronic & Computer Engineering, The University Of Western Australia

Report on Interspeech 2007 Conference

Interspeech 2007, the 8th annual conference of the International Speech Communication Association (ISCA), was held in Antwerp, Belgium from 27-31 August 2007. The conference venue was the Flanders Concert & Conference Centre (FCCC) situated adjacent to the Antwerp Zoo to which all participants of Interspeech had free entrance.

The city of Antwerp is home to one of the largest diamond centers in the world and has a wide range of cultural and historical attractions to offer. To name just a few, these include the Museum of Fine Arts, the Plantin-Moretus being the first museum put on the UNESCO's list of World Heritage Sites and Belgian delicacies like beers and chocolates.

At the opening session, Prof. Victor Zue, from MIT, Cambridge, MA, was awarded the ISCA medal and Prof. Wolfgang Hess, from the University of Bonn, was presented with a special service medal to honor his efforts in creating and maintaining the ISCA archive. Victor Zue then continued with his keynote speech "On Organic Interfaces" which was a fascinating talk about the challenges we face when designing and building the next generation of spoken dialogue interfaces. The

multidisciplinary nature of Interspeech was also reflected in the second keynote speech given by Prof. Sophie Scott from the University College London. Her talk about "The Neural Basis of Speech Perception - a view from functional imaging" presented the anatomical framework necessary for engineers to get a basic understanding of how the human brain decodes speech. Other plenary talks included Dr. Pierre Yves Oudeyer's "Self- Organization in the Evolution of Shared Systems of Speech Sounds: a Computational Study" and Prof. Alex Waibel's talk on "*Computer Supported Human-Human Multilingual Communication*". Prof. Waibel also gave an impressive live demo of a multilingual speech recognition interface automatically recognizing his talk in English and translating the speech into several other languages.

On the 2nd day of the conference I gave my talk on "Smooth Soft Mel-spectrographic Masks based on Blind Sparse Source Separation". The fruitful discussions afterwards helped me to receive some very useful suggestions regarding my work. I also attended several other interesting sessions on robust automatic speech recognition and microphone array processing closely related to my own research.

In addition, I visited sessions on speaker verification & identification as this topic is of importance to some of the members of my laboratory back in Perth. In this way, I could identify future trends in this area and pass back useful information. In retrospect, I believe the conference has helped me to see the broader picture of speech technology and its applications as well as the challenges that are still lying ahead. My participation in Interspeech 2007 has further strengthened my wish to pursue a career in speech processing.

Finally, I would like to thank ASSTA for supporting me through the ASSTA Conference Travel Award which allowed me to take part in this wonderful experience. I am definitely looking forward to ICSLP 2008 in Brisbane, when Interspeech is coming to Australia.

Wai Chee Yau
School of Electrical and Computer Engineering, RMIT University

Report on 12th International Conference on Computer Analysis of Images and Patterns

The 12th International Conference on Computer Analysis of Images and Patterns (CAIP) was held on 27-29 August 2007 at Vienna

University of Technology, Austria. This is a biennial event that focuses on topics related to computer vision and pattern recognition. CAIP 2007 was organized by Pattern Recognition and Image Processing Group (PRIP) of Vienna University of Technology. This conference was held in a single track fashion that consisted of keynote talks, oral and poster presentations. The proceedings of this conference are published in the Lecture Notes in Computer Science (LNCS).

Most of the conference delegates were computer scientists and engineers working in the area of image processing. The first keynote speaker, Prof. Steven Zucker from Yale University talked about a unified framework for analysing geometry, colour and stereo information of images. It was interesting when he showed that it is possible to distinguish mouth images of different words using this technique.

The second keynote speech was by Prof. Arnold Smeulders from University of Amsterdam on object recognition. The third keynote talk was on human perception of 3D shapes, presented by Prof. Zygmunt Pizlo from Purdue University, who is a professor in psychology and engineering.

CAIP does not explicitly emphasize speech processing yet there were three papers (one oral presentation and two poster presentations) related to visual speech recognition. This shows a growing interest among researchers in the computer vision community on speech processing. My research topic for my PhD program is on visual speech recognition using facial movement information. My oral presentation was scheduled on the 3rd day of the conference.

Oral presentation in the lecture hall of Vienna University of Technology

Poster presentation

During the conference, I had the chance to discuss and exchange ideas with a researcher from Sweden, Maycel I. Faraj who is working on digit recognition based on lip-biometrics. Another research group Dublin City University, Ireland had presented a poster on a new manifold representation for visual speech recognition.

I was also inspired by the new computer vision methods presented by the other delegates. Some of these techniques can be useful in lipreading applications for analysing mouth or face images. More information on the CAIP 2007 can be found in the conference website: http://www.prip.tuwien.ac.at/caip07/index.php.

Finally, I would like to thank ASSTA for providing the funding support to attend the conference.

Mitchell McLaren
Queensland University of Technology

Report on Interspeech 2007 Conference

I was recently able to be a part of the Interspeech 2007 conference in Antwerp, Belgium. As this was the first conference I had attended during my studies, I had little knowledge of the benefits that would come from taking part in such an event. Members of the speech community flocked to the historical city of Antwerp, congregating in a large venue adjacent to the Antwerp Zoo to start a new zoo of our own for the locals to admire - one packed with around a thousand speech scientists. A plenary session was organised to kick off each morning allowing everyone to get into the right frame of mind for the day. The halls of the Flanders Congress and Concert Centre held numerous oral sessions where a wealth of information was shared. The poster sessions were often crowded with fellow researchers posing questions regarding each others work, often highlighting area's in which future research could be conducted.

Numerous personal networks were made during Interspeech, not only during presentations but also at the social events. The week-long conference in Antwerp uncovered a new social event every evening where one's work could be put aside and a drink could be shared with new friends. The organisers of Interspeech 2007 obviously placed a lot of effort and money into these events for which they should be commended. An added benefit of attending the conference was the free admission to Antwerp Zoo which was quite impressive and

well worth a visit.

Interspeech 2008 is being held in our home country in Brisbane, Queensland. Given its location, I strongly recommend all ASSTA members attend next year's Interspeech conference to take part in the exchange of speech science knowledge and to make new international networks. I thank ASSTA for the funding support for the conference.

Roy Wallace
Queensland University of Technology

Report on Interspeech 2007 conference

I was lucky enough to have been granted an ASSTA Conference Travel Award to help me to fund my attendance at Interspeech 2007, the eighth conference in the annual series of Interspeech events. This year, the event was held in Antwerp, Belgium.

The paper I presented at Interspeech was entitled "A Phonetic Search Approach to the 2006 NIST Spoken Term Detection Evaluation". I was fortunate enough to meet several key authors in my field, including some who attended the NIST evaluation last year, on which my paper was based. I also received valuable feedback about some of the weaknesses of my system, as well as some praise and general interest, with several business cards exchanging hands.

The other papers in my session and corresponding oral session also provided useful grounds for comparison of my work to other recent approaches. This was my first opportunity to present a poster, which was fantastic experience and thoroughly enjoyable.

A highlight of mine would certainly be the opportunity to talk in person with an employee at a large speech research company based in China, and to have a lively discussion with an ensemble of researchers from all over the world about the issues facing China and the rest of the world in the current climate of globalization. The following discussions were instrumental in helping to arrange a possible internship for me next year, where I could be based in China and have the opportunity to work in a world class speech research organization.

Karen Croot
School of Psychology
University of Sydney

Conference Report on LabPhon10, Paris,
29 June – July 1 2006

The Laboratory Phonology (LabPhon) Meetings promote investigation of the relationship between the cognitive and physical aspects of speech within the broader field of cognitive science. The 2006 meeting in Paris was the 10th of these biennial meetings, attracting approximately 240 attendees including students and eminent speech scientists, and was the largest LabPhon meeting so far. A very full programme over three days offered both platform presentations and poster sessions, with a delicious lunch at local restaurants included, and coffee and pastries to keep us fortified during the other breaks.

Attending the conference dinner on a boat on the Seine was tough, but someone had to do it. There were 5 session themes:

Variation, phonetic detail and phonological modelling, Variation at the crossroad between normal and disordered speech, Variation and the emergence of phonology, Variation and language universals, and a 10th Anniversary session including an inspiring commentary by Abigail Cohn considering how approaches to studying human sound systems had evolved over the history of the LabPhon meetings.

The sessions dedicated to speech and language disorders and development were a departure for LabPhon this year, illustrating Abby Cohn's point that the LabPhon meetings are open to a range of theoretical perspectives and create dialogue across discipline boundaries and methodologies. Particularly interesting to me in these sessions were papers arguing for different influences of prosodic prominence in normal dysfluencies versus the dysfluencies of people who stutter (Timothy Arbisi-Kelm), and for cross-linguistic differences in early word shapes as evidence that word learning is influenced by typical phonetic patterns in the input rather than formal constraints (Marilyn Vihman). A paper I presented by Croot, Au and Harper in this session described the effect of prosodic boundaries and prominence on tongue twister errors.

It's impossible to capture the scope of papers and topics covered during the conference in this report, but the programme and most of the abstracts are available at http://aune.lpl.univaix.fr/~labphon10/. A selection of papers and commentaries will appear in a book to be edited by conference

organiser Cécile Fougeron and colleagues. Some other highlights for me were a number of papers extending the coupled oscillator model of gestural organization in speech production to account for syllable-internal structure (Hosung Nam et al.), Mandarin tone (Man Gao) and speech errors (Marianne Pouplier et al.); papers reporting lexical effects on /s/ production (Kelley Kilanski & Richard Wright) and VOT (Melissa Michaud Baese & Matthew Goldrick); and an analysis of tongue contour in erroneous vowel insertions in consonant clusters in a speaker with aphasia suggesting that these errors have a phonological rather than articulatory origin (Adam Buchwald & Maureen Stone). A nifty study by Jen Hay, Katie Drager and Paul Warren exploited the ear/air merger in NZ English versus RP to show that people store phonetic detail and information about the regional origin of particular forms in the lexicon. This information can be primed by exposure to speakers of (or even vocabulary items associated with) a particular dialect. In other words, talking about lollies versus candy messes with people's speech perception!

Abby Cohn in her keynote suggested that there are two challenges in disseminating the work of the LabPhon community to a wider audience: (i) raising the profile of laboratory phonology within the broader field of cognitive science, and (ii) integrating LabPhon approaches with traditional theoretical phonology. John Ohala (LabPhon 10 Abstract book, p.211) suggested that the dominance of non-experimental approaches in mainstream phonological theorising represents a failure of laboratory phonology because "the results from laboratory phonology have a longer life than those from speculative phonology". Both Cohn and Ohala urged persevering with the openness and interdisciplinary collaboration and cross training that have characterised the LabPhon community so far.

The next opportunity to do this will be close to home for ASSTA members. LabPhon 11 will be held at Victoria University of Wellington NZ,

from 30 June to 2 July 2008, organised by Paul Warren, Jen Hay and committee. See http://www.vuw.ac.nz/labphon11/ for more information.

This is a stimulating, friendly conference, just down the road or across the pond for many of us, so I really encourage you to consider attending!

Karen Croot
School of Psychology
University of Sydney

Conference Report: 5th International Conference on Speech Motor Control, Nijmegen, 7 – 10 June 2006

The Speech Motor Control Conferences are held in Nijmegen, The Netherlands, every 5 years, and focus on theoretical and applied research in normal and disordered speech motor control. The topics in the 2006 meeting relating to unimpaired speech ranged from genetics through development, modelling, and neuroimaging to EMMA (electromagnetic articulography) techniques. Topics in disordered speech motor control included dysarthria, fluency disorders, and apraxia of speech in adults and children.

The conference is organised with a single platform session stream with a high number of invited speakers, plus several poster sessions at which 90 posters were presented. This is full-on speech motor control for 4 days, and one of my favourite conferences.

Both times I have attended I have ended up excited about all the directions in which the research is progressing – and mentally exhausted!

I presented a poster on Foreign Accent Syndrome on behalf of several Australian and UK colleagues, in which we argued (following earlier Australian researchers led by John Ingram among others) that one characteristic in the early stages of this disorder is increased articulatory tension.

A number of papers were relevant to this work, especially those by David Ostry on the relationship between somatosensory precision in speech and articulatory stiffening, and by Christopher Dromey on associations between laryngeal tension and supralaryngeal articulatory movements. Other particularly interesting papers to me included one showing that early voice changes in Parkinson's disease index reduced striatal dopamine levels (Snyder et al.), a review of speech motor abilities in clinical subtypes of Parkinson's Disease (Watts et al.), and a discussion of

limitations imposed by the Mayo Clinic taxonomy of dysarthrias on further understanding of speech motor disorders (Weismer). Lisa Goffman and Anne Smith have been investigating the interaction between linguistic and motor variables in speech production, and presented new work extending this to prosodic factors.

Christy Ludlow and Soo-Eun Chang reported a study aiming to deconfound the influence of developmental brain differences from neuroplastic changes in the brain due a lifetime of stuttering by measuring grey matter volume in children who stutter compared with their fluent peers. Grey matter in temporal brain regions is reduced in children who stutter but increased in adults, suggesting the adult changes may be due to compensatory neuroplasticity across the lifespan in people who stutter.

Simone Graetzer
Phonetics Laboratory, University of Melbourne

16th International Congress of Phonetic Sciences (ICPhS) 2007 6-10 August 2007, Saarbruecken, Germany

I recently attended the 16th International Congress of Phonetic Sciences (ICPhS) 2007 hosted by Saarland University, Saarbruecken, Germany, from 6- to 10 August, 2007. The congress takes place every four years. My conference attendance was financially supported by ASSTA (Travel Award), and the University of Melbourne. The Congress was chaired by William Barry in conjunction with Juergen Trouvain (local organisation). ICPhS is a large congress consisting of hundreds of full and poster presentations concerning, for example, speech production and perception, the acoustics of speech, language acquisition, and speech technology, and several satellite workshops. Plenary speakers were Bjoern Granstroem and David House (Stockholm), John Local (York), and William Barry (Saarland). The typical daily

conference schedule was divided into three oral sessions and two poster sessions on a given theme. Oral sessions were chaired, and a small amount of question time was permitted at the conclusion of the presentation. There were thirteen participants from Australia and New Zealand.

The majority of participants were from the United States, the United Kingdom, and Germany. Very mMany well-known phonetic scientists, including William Hardcastle (Edinburgh), Jonathan Harrington (Munich), Joseph Perkell (Massachusetts), Daniel Recasens (Barcelona), and John Wells (London) were in attendance. Recasens, for example, presented a report on an articulatory (electropalatographic) study of flapping of the alveolar nasal, alveolar tap, and clear /l/ in vowel-consonant-vowel sequences in two Catalan dialects.

My poster on the acoustics of coarticulation in speech (specifically, on consonantal coarticulation resistance in vowel-consonant-vowel sequences) utilised data from Arrernte, an Australian language, and was presented with several other posters addressing the issue of coarticulation. Coarticulation is an important problem in speech science and is the basis of many well known phonological processes, such as assimilation and vowel harmony. It is an important problem because of what it means for linguistic representation, and because of its relevance to the relationship between phonetics (concerned with varying, non-discrete units) and phonology (concerned with invariant, discrete units). Coarticulation is also an important problem because it is both universal (all languages display coarticulation), and language-specific (coarticulation is realised differently in different languages). Furthermore, coarticulatory patterning is known to differ across speakers. Coarticulation allows important advantages, such as economy of articulatory gesture, and more rapid perceptual processing (because the articulation of a phoneme "yet to come" is anticipated, and this provides information about that phoneme's identity) (Ladefoged, 1993, 56). The justification for my particular study is the widely-recognised

need for a more detailed phonetic description of coarticulatory processes, especially in Australian languages.

In regard to social events, on the first day of the congress, a welcome reception was held in the botanical gardens of Saarland University. Opportunities for organised sight-seeing were provided on the third day. On the fourth day, a barbecue party was held near the conference building, and on the final day, farewell drinks were provided.

The next meeting of the congress will be held in Hong Kong in 2011.

Reference

Ladefoged, P. (1993). A course in phonetics (3rd ed.). Fort Worth, Texas: Harcourt, Brace, and Jovanovich.

INTERSPEECH & AVSP 2007 Highlights

LABORATORY PROFILE

School of Linguistics and Applied Linguistics, University of Melbourne

The modern phonetics laboratory at The University of Melbourne was established by Associate Professor Janet Fletcher in 1993, and moved to its current site in the Department of Linguistics and Applied Linguistics in 2000. The laboratory is multi-purpose in nature and is the focus for phonetics teaching, speech science and laboratory phonology research in the School of Languages and Linguistics.

The laboratory has collaborative links within the University of Melbourne (Otolaryngology, ESL, French and Italian studies, and Neuroscience), and with other Linguistics and Speech Departments in Australia and overseas. These include the Department of Speech Pathology and Audiology at Flinders University, The Dipartimento di Scienze del Linguaggio at the Universita di Torino, The Department of Linguistics at La Trobe University, IPS at Munich University, the Phonetics Laboratory UCLA, and The Phonetics Laboratory at Cambridge University.

In the phonetics laboratory at The University of Melbourne, we have a strong interest in research into prosody, and in Australian languages. Other research areas in which we are active include laboratory phonology, the phonetics of Australian English, and forensic speaker identification. We have a number of ARC funded projects being carried out in the Phonetics Laboratory, for example a study investigating the relationship between speech production and perception in Australian language speakers which commenced this year. This is a collaborative project between Professor Adrew Butcher (Flinders University), Associate Professor Janet Fletcher, and Dr. Marija Tabain (La Trobe University).

Members of the phonetics laboratory at The University of Melbourne include:

The director, Associate Professor Janet Fletcher. who came to Melbourne after spending some years at

Macquarie University, the Ohio State University and Edinburgh and Reading Universities.

Associate Professor Janet Fletcher also co-authored the 3rd edition of the textbook An Introduction to Phonetics and Phonology (3rd ed.) with Professors John Clark and Colin Yallop, which was published in mid-2007.

Associate Professor John Hajek, whose interests range from the typology of nasalization, and the phonetics and phonology of Italian varieties, to tonal and segmental articulation in a number of Austronesian languages.

Dr. Mary Stevens, who will be awarded a PhD in December for her project A Phonetic Investigation into Raddoppiamento Sintattico in Sienese Italian Speech. Analysing a corpus of spontaneous speech. Dr. Stevens uncovered previously unreported preaspirated stops [hC], which are typically only associated with Icelandic and other Scandinavian languages.

Dr. Debbie Loakes, who was awarded a PhD in 2006 for the project A Forensic Phonetic Investigation into the Speech Patterns of Identical and Non-identical Twins. She is a member of the ASSTA Forensic Speech Science Committee, and is currently working with Assoc. Prof. Fletcher using EPG to analyse variation in consonant coarticulation in Warlpiri.

There are also a number of PhD candidates in the phonetics laboratory, including:

- *Hywel Stoakes*, who is researching acoustic and aerodynamic aspects of stop consonants and clusters in Bininj-Gun Wok. Hywel has recently returned from fieldwork in Western Arnhem Land. He was a guest of the Mamardawerre community and was able to gather acoustic and aerodynamic data from Kunwinjku speakers.

- *Simone Gratezer*, who is studying coarticulation and coarticulation resistance in three Australian Languages (Arrente, Burarra and Gupapuyngu).

- *Bruce Birch* who is carrying out a project on the prosody of Iwaija.

Bruce has also been working on a collaborative Volkswagen Foundation project researching Iwaidja and other endangered (Australian) languages.

- *Bella Ross*, who is researching the interaction between prosody and structure in two Australian Languages (Dalabon and Kayardild). Bella was also awarded an ASSTA PhD study award in the latest round.

Some recent activities by members of the phonetics laboratory will help to illustrate our interests. In 2007, members of the phonetics laboratory presented seven papers at The International Congress of Phonetic Sciences in Saarbrucken, ranging from an acoustic investigation of vowel contrasts in Indian English (Kalashnik and Fletcher) to a study of frication of Australian English stop consonants (Loakes and McDougall). Associate Professor Janet Fletcher was also invited to speak at the satellite event Intonational

Prosody: Understudied or Fieldwork Languages, where she discussed prosodic aspects of Intonation in Dalabon. In February, Dr. Loakes gave a seminar on her recent work in forensic phonetics via video conference to members of the linguistic science department at The University of York.

There are also some upcoming events in December which members of the phonetics laboratory are looking forward to. Dr. Stevens' work is to be presented at the 2007 conference of the Associazione Italiana di Scienze della Voce (AISV), with co-authors Associate Professor John Hajek (University of Melbourne), Dr Antonio Romano and Dr. Paolo Mairano (Università di Torino).

Members of the phonetics laboratory will also be presenting recent work at the Workshop on the Phonetics and Phonology of Australian Languages at la Trobe university, organised by Dr. Marija Tabain.

CONFERENCE LOG

6-9 May 2008. Speech Prosody 2008. Campinas, Brazil. (12/06) http://www.sp2008.org/

30 June - 2 July 2008. 11th Laboratory Phonology Conference. Victoria University of Wellington, New Zealand.

http://www.victoria.ac.nz/labphon11

08 - 10 March 2008, Dresden, Germany. 34th Meeting of the German Association for Acoustics (DAGA2008). http://2008daga-tagung.de

30 March - 01 April 2008, Florianopolis, SC, Brazil. SAE-Brasil Noise and Vibration Conference-NVH. http://www.saebrasil.org.br/eventos/secao_parana_sc/nvh2008/site/

31 March - 04 April, Las Vegas, Nevada, USA. International Conference on Acoustics, Speech, and Signal Processing (IEEE ICASSP 2008). http://www.icassp2008.org

08 - 11 April 2008, Kobe, Japan. Oceans'08. http://

www.oceans08mtsieeekobetechnooocean08.org/index.cfm

10 - 11 April 2008,Reading, UK. Institute of Acoustics (UK) Spring Conference. http://www.ioa.org.uk/viewupcoming.asp

17 - 18 April 2008, Bellinzona (Tessin), Switzerland. Swiss Acoustical Society Spring Meeting. http://www.sga-ssa.ch

12 - 15 May 2008, Sopot, Poland. 10th Spring School on Acousto-optics and Applications. http://univ.gda.pl/~school

29 June - 04 July 2008, Paris, France. "Acoustis'08 Paris" = 155th Meeting of the Acoustical Society of America http://www.acoustics08-paris.org

06 - 10 July 2008, Daejeon, Korea. 15th International Congress on Sound and Vibration. http://www.icsv15.org

21 - 25 July 2008, Mashantucket, CT, USA. 9th International Congress on Noise as a Public Health Problem. http://www.icben.org

27 - 31 July 2008, Keele University, UK. 10th Mechanics of Hearing Workshop.
http://www.mechanicsofhearing.com

25 - 28 August 2008, Lyngby, Denmark. 1st International Conference on Waterside Security.
http://www.wss2008.org

25 - 29 August 2008, Sapporo, Japan. 10th International Conference on Music Perception and Cognition. http://icmpc10.typepad.jp

08 - 12 September 2008, Lerici, Italy. International Symposium on Underwater Reverberation and Clutter. http://isurc2008.org

10 - 12 September 2008, Fukuoka, Japan. Autumn Meeting of the Acoustical Society of Japan. http://www.asj.gr.jp/indexen.html

15 - 17 September 2008, Leuven, Belgium. International Conference on Noise and Vibration Engineering (ISMA2008).
http://www.isma-isaac.be

23 - 25 September 2008, Southampton, U.K. Underwater Noise Measurement. http://www.ioa.org.uk/viewupcoming.asp

22 - 26 September 2008, Brisbane, Australia. INTERSPEECH 2008 -

10th International Conference on Spoken Language Processing (ICSLP). http://www.interspeech2008.org

21 - 23 October 2008, Tokyo, Japan. 13th Conference on Low Frequency Noise and Vibration.
http://www.lowfrequency2008.org

24 - 26 November 2008, Geelong, Victoria, Australia. Australian Acoustical Society National Conference.
http://www.acoustics.asn.au

References

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Kitamura, C., & Burnham, D. (2003) Pitch and communicative intent in mother's speech: Adjustments for age and sex in the first year. Infancy, 4(1), 85-110.

Burnham, D., Kitamura, C., & Vollmer-Conna, U. (2002) What's New Pussycat? On talking to babies and animals. Science, 296, 1435.

Denis Burnham

Laboratory Phonology 11

Victoria University of Wellington

New Zealand

30 June – 2 July 2008

Theme:

Phonetic detail in the lexicon

Sub-themes:

Accessing the lexicon
Invited speaker: Keith Johnson, Berkeley
Commentator: Marcus Taft, UNSW

Social information in the lexicon
Invited speaker: Paul Foulkes, York
Commentator: Ben Munson, Minnesota

Phonetic cues to lexical structure
Invited speaker: Alice Turk, Edinburgh
Commentator: Laurie Bauer, VUW

Generalising over the lexicon
Invited speaker: Anne Cutler, MPI
Commentator: Karen Croot, Sydney

LABPHON 11
LABPHON

Victoria
UNIVERSITY OF WELLINGTON
Te Whare Wānanga
o te Ūpoko o te Ika a Māui

UC
UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

ASSTA

REGISTRATION INFORMATION
&
ABSTRACT SUBMISSION DETAILS

are available from the conference website

http://www.victoria.ac.nz/labphon11/

Abstracts due 7th Dec 2007

For general enquiries please e-mail
labphon11@vuw.ac.nz

This conference is immediately followed at the
same venue by the fifth conference of the
International Gender and Language Association
3 - 5 July 2008   http://www.victoria.ac.nz/igala5/

HCSNet
Workshop on Hearing Prostheses

Bringing together the science and practice of hearing prostheses

14 November 2007

Rydges World Square Hotel, Sydney, Australia

Keynote Speakers:

Prof. Dexter Irvine (Monash University)

Prof. Christine Yoshinaga-Itano (University of Colorado, Boulder)

For information please contact:
Chris Davis, chris.davis@uws.edu.au
http://www.hcsnet.edu.au/hcsnetevents/2007/hpworkshop