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The Centre’s Mission

Transform the focus of the language sciences to a dynamic model where diversity, variation, plasticity and evolution lie at the heart of language and its investigation.
SECTION ONE

THE CENTRE
The ARC Centre of Excellence for the Dynamics of Language

Using language is as natural as breathing, and almost as important, for using language transforms every aspect of human experience. But it has been extraordinarily difficult to understand its evolution, diversification, and use: a vast array of incredibly different language systems are found across the planet, all representing different solutions to the problem of evolving a flexible, all-purpose communication system, and all in constant flux.

The ARC Centre of Excellence for the Dynamics of Language (CoEDL) is shifting the focus of the language sciences from the long-held dominant view that language is a static and genetically constrained system — to a dynamic model where diversity, variation, plasticity and evolution, along with complex interactions between language-learning and perceptual and cognitive processes, lie at the heart of language and its investigation.

CoEDL is addressing the most critical questions about language: How do languages (and other adaptive self-organising systems) evolve? How different can languages be? How do our brains acquire and process them? How can technologies deal with the complexity and enormous variability of language in its central role in human information processing? What can Australia do to increase its linguistic abilities at a time of increasingly multilingual demands in trade and information?

To achieve this transformation of the language sciences and the flow-on translational outcomes for the public and end-users, we have assembled a team which makes surprising and bold connections between areas of research that until now have not been connected: linguistics, speech pathology, psychology, anthropology, philosophy, bioinformatics and robotics.
The Year in Review

The Centre in 2019:
- 16 Chief Investigators
- 12 Partner Investigators
- 25 Associate Investigators
- 29 Research Fellows
- 2 Research Associates
- 56 PhD students
- 235 Affiliate members

CoEDL and CoEDL research featured in:
- 26 international stories
- 190 national stories
- 4 international radio interviews
- 60 national radio interviews
- 1 international television interview
- 7 national television interviews
- 21 international digital/print articles
- 123 national digital/print articles

Training and Engagement
The Centre:
- held the annual Summer School with 110 attendees
- hosted 44 international visitors
- delivered 99 outreach events
- delivered 31 training courses
- mentored 51 students and 2 postdoctoral fellows this year via 9 mentoring programs

Online presence:
- 165,280 Website page views
- 1,615 Facebook page likes
- 1,701 Facebook followers
- 2,253 Twitter followers
- 491 LinkedIn connections
- 63 YouTube channel subscribers
- 21 iTunes downloads
## Strategic goals

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<th>Impact</th>
<th>Industry Engagement and Technology</th>
<th>Research Training, Education and Outreach</th>
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<td>Understand and communicate the social and economic benefits of multilingualism. Increase the breadth and depth of coverage of the world’s languages. Go beyond description to incorporate learning, processing and historical data.</td>
<td>Generate tier 1 evidence for the benefits of technology-enabled language systems. Deliver significant improvements in the efficiency of corpus, grammar and dictionary production and analysis.</td>
<td>Support speakers of minority languages through to postgraduate research on their native language. Deliver and support public exhibitions on language.</td>
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More than any year yet in CoEDL’s lifetime, looking back on the previous year is obscured by months between – fires, hail, floods, COVID-19. Yet the causes of at least some of these, and our societal failure to deal with them, are a reminder that the Indigenous languages so integral to CoEDL’s activities are not just central to the language sciences, or the communities of their speakers, but are also vehicles of the millenarily accumulated wisdom they transmit on topics such as fire management – a topic where we will be taking new initiatives in 2020.

But peeling back those disasters, it is good to celebrate the multitude of CoEDL’s activities and achievements in 2019, collected in this our sixth annual report.

As befits the International Year of Indigenous Languages (IYIL2019), CoEDL’s efforts were even more focussed on this vitally important and interesting issue than usual. In addition to various publications and research initiatives mentioned below, and inevitably leaving out much you can read about elsewhere in this report, highlights included:

- the Patji-Dawes Award going to Gija teacher Sophia Mung for her work at Purnululu Aboriginal Independent Community School, and to Brother Steve Morelli for his work on Gumbaynggir
- the establishment of the Indigenous Language Alliance, led by AI Jaky Troy and PhD student Lesley Wood at a CoEDL-funded workshop
- steady increases in our Indigenous representation as Lizzie Marrkilyi Ellis obtained her honorary doctorate at the ANU, Anjilkurri Radley (WSU) and Al Harvey (UQ) joined Lesley Wood (ANU) in the PhD cohort, and Chantelle Khamchuang joined the Honours cohort (WSU)
- CI Rachel Nordlinger’s public lecture on The Genius of Australian Indigenous Languages
- a special edition of *Babel*, Journal of the Australian Federation of Modern Language Teachers’ Associations, on the topic of learning and speaking First Nations Languages in Australia, edited by Jane Simpson, Samantha Disbray and Carmel O’Shannessy
- huge public interest in the Melbourne-based 50 Words project, which has done a great deal to put the diversity of Australian languages on the map
- traction in giving teachers and health educators tools for assessing the linguistic development of children speaking Indigenous languages (the ERLI project, led by CI Caroline Jones, for bringing vocabularies of children speaking Kriol and other languages of the region, and the project led by CI Jill Wigglesworth for assessing the phonological awareness of children from the Western Desert and Northeastern Arnhem Land regions)
- work on the National Indigenous Languages Report with our partner AIATSIS
continued rapid growth in our archival holdings of recordings in PARADISEC which with over 1,229 languages now holds materials for a sixth of the world’s 7,000 languages, and with around 300,000 files has more than quadrupled its holdings from the time CoEDL began. We are delighted that in 2019 PARADISEC guided by its Director, CI Nick Thieberger, received the Core Trust Seal from the World Data System (https://www.icsu-wds.org), which accredits PARADISEC as a trusted steward for preserving data and providing access to it, according to standards endorsed by the wider research data community.

comparably rapid growth in the size and quality of language corpora for dozens of languages of the region, with Bislama being the first to break the million-word barrier during 2019; at the same time the ‘Speaking, Talking, Telling’ website (google Gerlingo!) is proving a popular way of making a selection of these holdings widely available online.

the announcement, late in 2019, that from 2022 IYIL2019 will morph into an International Decade of Indigenous Languages – a time frame and long-term commitment more suitable for the complexity and magnitude of the challenge.

CoEDL’s production of books continued apace, and as befits the IYIL2019 many were concerned with extending our knowledge on this front. Dictionaries played a prominent role in 2019 (see Shape Report): two first-edition dictionaries of Australian languages (Mudburra, Ngarinyman), second or third editions of two others (Alyawarra, Ngarrindjeri), and the first on-line dictionary of a Papuan language (Nen). Each dictionary, with its many thousands of words, represents dozens of years of research by many people, and individual words can sometimes take decades to find or translate correctly. Moreover, second editions indicate the central importance of dictionaries to their communities and the long cumulative arc of lexicographic work which sometimes only starts once the first edition raises community awareness of the value of dictionaries.

Other books on Indigenous languages focussed on Murrinhpatha word structures, on Archival Returns in Central Australia, as well as on more theoretical questions such as understanding grammatical gender. Finally, two important textbooks (a new textbook by Kersti Börjars, CI Rachel Nordlinger and Louisa Sadler on Lexical Functional Grammar, and the third edition of PI Miriam Meyerhoff’s Introducing Sociolinguistics) mark steps in one of CoEDL’s missions: bringing new approaches to the language sciences into university curricula.

Core to the CoEDL ethos is that our unique and intensely interlinked range of language scientists will catalyse unexpected and fruitful collaborations, and each year brings more of these, such as: Boeing software engineers helping Ben Foley and Daan van Esch simplify the code for the ELPIS pipeline to accelerate transcription of under-resourced languages (see New Technologies); or CI Felicity Meakins linking Gurindji speakers to NASA to search for evidence of a sixth sense underlying the famous compass-sensitive vocabularies of Australian languages. Examples like these underline another of our tenets, that the intellectual wealth of Indigenous languages is the stuff of the future, not just a relic of the past.
Presenting our vision of the language sciences to the world, CoEDL hosted or co-hosted three major international conferences in 2019 – the International Conference of Historical Linguistics (organisers CI Bethwyn Evans and others) and Lexical Functional Grammar conferences (organisers Al Wayan Arka, Elisabeth Mayer and Deputy Director Jane Simpson) in Canberra in July; and the International Congress of Phonetic Sciences in Melbourne in August (organisers Marija Tabain, CI Paola Escudero, Affiliates Shunichi Ishihara and Rosy Billington and others) – in the last case, the first time this vast congress has been held in the southern hemisphere.

Coming into 2020, it is heartening to see a whole new tide of postdocs and HDR students – five new postdocs, 21 new PhDs, two new MPhils and numerous Honours students – stepping into the shoes of those moving on from completed PhDs or postdocs to take up jobs around the world. Details follow – and I welcome our new members into our vibrant community.

On a sadder note, we bid farewell to Belinda Hofmeyr after her stellar period as Melbourne Node administrator, and to publicity and outreach officer Martin Blaszczyk, who has done much to get CoEDL out there in the media, e.g. through the set of interviews and podcasts that have appeared on our site this year. On behalf of CoEDL our thanks to you both for all your hard work.

A Centre as complex and dynamic as CoEDL can only function with the commitment of many people and we are incredibly privileged to have people of great talent and generosity at every level – from our administrative team, to our Executive, to our various subcommittees and program and thread leaders, to our postgrad and early career reps, to those who share their ideas and stories on all aspects of language. I am also personally grateful to Chief Operating Officer Romina Paskotic, Deputy Director Jane Simpson, and the ANU CoEDL staff for keeping things running smoothly when I have been on fieldwork or research leave. Finally, we benefit enormously from the wisdom of our diverse and astute Advisory Committee, who each year help us improve the focus, connectivity and impact of our research. Again on behalf of CoEDL I would like to thank Tony Woodbury and all the members of the Advisory Committee for their commitment of time, concentration and thoughtfulness.

The huge impact that Covid-19 will have on our lives – personal and professional – through 2020 will make this a very different year, and as you read the pages of this Annual Report I invite you to think of how, in the face of the challenges it will pose to our established ways of collaborating, we can maintain the connections that make CoEDL such an exciting community to be part of. While some activities will be on hold, and others transmuted into the sort of digitally mediated interactions that many CoEDLers have been studying, in other respects this year should furnish the calm and concentration to begin harvesting some of the massive data collections we have been building over the last five and a half years, as we move into the last two years of this incarnation of CoEDL’s life.

— Nick Evans, Director
I am pleased and honoured to serve as Chair of the Advisory Committee. We wish to acknowledge and commend the entire CoEDL community, including the Executive Committee and the Directors Nick Evans and Jane Simpson, for their nearly six years of success and achievement on the world and national stage: for their unique ideas, efforts, and accomplishments in integrating the language sciences and allied humanities and arts; for their vision of inclusiveness across societies and regions and in particular, their attention to Indigenous Australians and Indigenous peoples across the Pacific and their languages and cultural practices; and for their concern with the contributions to be made by the language sciences to education, society and the environment.

In these six years, both within CoEDL’s programs and threads and across them, we are proud to recognise many accomplishments, from extensive documentation, description, and archiving of Indigenous languages in Australia and the Pacific, to charting the dynamics of linguistic diversification and exploring learning and processing across the incredible range of linguistic structures in these languages. We also recognise enterprises now ongoing, including PARADISEC with its building and curation of language archives, corpora, and datasets; strong new institutional connections, for example with the Australian Federation of Modern Language Teachers Associations and through the Australian Language Data Commons; and above all the brilliant group of doctoral and postdoctoral researchers whose careers are launching in CoEDL.

And we recognise future plans that were not foreseeable when CoEDL began, like – among many others – the Endangered Language Pipeline and Inference System (ELPIS), a tool for training and achieving automated transcription of the wealth of materials being archived. These are the makings of an indelible and continuing impact for CoEDL, to be felt long past its initial seven-year run.

We experienced all this and more when we were hosted at the 2019 CoEDLFest in Sydney. Among the highlights for us were a day-long session on multi-modality: the orchestration of speech with gesture, gaze, musical organisation, visual design, and other pieces of the communicative ensemble, taken from the different programmatic viewpoints and focused on the diversity in these matters that has evolved across Australia and the Pacific. Also a highlight was Rachel Nordlinger’s public lecture on the genius of Australian Indigenous languages, and why they are important for all of us, an outstandingly able communication to a wider public showing how appreciating linguistic diversity, structure and content in these languages draws together the sciences, humanities, and the arts.

In closing, we would also like to express our thanks to Romina Paskotic, Joanne Allen and Martin Blaszczyk for their outstanding and thoughtful management of CoEDL and their hospitality and help to our Committee.

— Anthony C. Woodbury, Chair
Governance

The Centre governance structure is designed to support the research program, research training, outreach and education of the wider community. It facilitates cross-disciplinary collaboration within and outside of the Centre, allowing the pursuit of fundamental issues throughout the Centre’s lifespan, adding new ideas from researchers as they emerge in the field.

Advisory Committee

The Advisory Committee assists Centre management by contributing to the development of strategies and vision for the future relative to the proposed goals and objectives of the Centre, and by serving as a vehicle for creating better linkages between academia, the broader community, government and industry. The Committee gives advice to the Centre Director and Executive Committee on matters regarding the research focus of the Centre, its structure and general operating principles, ways of extending its social impact, and intellectual property and commercialisation management.

The Advisory Committee attended the week-long Centre annual meeting in February 2019 (CoEDLFest). This was an opportunity to see presentations from and interact with Chief Investigators, research staff and students in the Centre. During the annual meeting, the Advisory Committee met with the Centre Executive Committee. Throughout the year, members of the Advisory Committee are involved in a range of activities in the Centre, including events, training strategies, advice on governance, and strategic planning.

Anthony C. Woodbury  
(Chair, University of Texas at Austin)

Kate Burridge (Monash University)

Daan van Esch (Google Inc.)

Ralph Regenvanu (Vanuatu Parliament)

Lia Tedesco (School of Languages, SA)

Anne-Marie Morgan (James Cook University)

Jennifer Hay (University of Canterbury)

Clint Bracknell (Edith Cowan University)

Rafael Nuñez (University of California, San Diego)

Lynn Arnold AO (Anglicare SA)
GOVERNANCE

Executive Committee

The Executive Committee is responsible for approving and overseeing the activities of the Centre in accordance with the Funding Agreement. The Committee’s role also includes approval of budget allocations each year, review of Intellectual Property arrangements with advice from the IP Management Committee, and appointment of Advisory Committee members. Executive meetings are held regularly with hosting responsibilities shared across all four institutions. An open invitation to these meetings is extended to all chief investigators.

Membership as at December 2019:
Romina Paskotic (Chief Operating Officer, Chair, ANU)
Nick Evans (Director, ANU)
Jane Simpson (Deputy-Director, ANU)
Rachel Nordlinger (Shape Leader, UM)
Gillian Wigglesworth (Learning Leader, UM)
Anne Cutler (Processing Leader, WSU)
Kim Sterelny (Evolution Leader, ANU)
Janet Wiles (New Technologies Leader, UQ)
Nick Thieberger (Archiving Leader, UM)
Caroline Jones (WSU Representative)
Joanne Allen (Secretariat, ANU)

Intellectual Property Management Committee

The IP Management Committee monitors and reports on the conduct of the Centre with respect to commercialisation opportunities. The committee advises the Executive on the protection and commercialisation of intellectual property.

Membership as at December 2019:
Romina Paskotic (Chief Operating Officer, Chair, ANU)
Nick Evans (Director, ANU)
Douglas Robertson (Director, Research Services, ANU)
Fiona Nelms (Director of Technology Transfer, ANU)
Janet Wiles (New Technologies Leader, UQ)
Nick Thieberger (Archiving Leader, UM)
Andre Urfer (Business Development Team Leader, WSU)
Catherine O’Donovan (Senior Legal Counsel, Legal Services (Research), UQ)

Education Sub-committee

The Centre seeks to provide the best possible research environment for outstanding higher-degree research (HDR) students from diverse backgrounds. We want to provide them with the knowledge and skills for writing theses that make valuable contributions to the language sciences, and the skills to embark on fruitful careers inside and outside universities. This training must be consistent with – and integrated into – the HDR programmes of the four collaborating institutions. The complicated task requires vision and dedicated oversight. The Education sub-committee was established to assist the Executive on this critical outcome for the Centre, and on the opportunities for increasing the pool of talented applicants through strengthening understanding of
linguistics among undergraduate, masters and high school students, endangered speech communities, and the general public. Education sub-committee meetings are held regularly at different nodes. The sub-committee also oversees student mobility and summer school grants, a mentoring scheme, summer school programs, and consults on other HDR training opportunities.

Membership as at December 2019:
Jane Simpson (Chair, ANU)
Gillian Wigglesworth (UM)
Felicity Meakins (UQ)
Caroline Jones/Rachel Hendery (WSU)
Catherine Travis (ANU)
Martin Blaszczyk (CoEDL Communications & Outreach Manager)
Amanda Hamilton-Hollaway (UQ, HDR representative)
Ben Foley (UQ, Postdoctoral representative)
Rebecca Defina (UM, Postdoctoral representative)
Joanne Allen (Secretariat, ANU)

Grants Sub-committee
The cross-disciplinary nature of the Centre will provide many opportunities for cross-program collaboration at all levels. The Centre budget provides grant funds each year to be used to further develop the existing interdisciplinary nature of the Centre, providing opportunities for Centre members to initiate integration projects and activities. The Executive Committee has established the Grants sub-committee to coordinate applications and advise the Executive on the distribution of grant funds.

Membership as at April 2019:
Anne Cutler (Chair, WSU)
Janet Fletcher (UM)
Simon Greenhill (ANU)
Janet Wiles (UQ)
Nick Thieberger (UM)
Alan Rumsey (ANU)
Caroline Jones (WSU)
Joanne Allen (Secretariat, ANU)

Early Career Researcher and Higher Degree Researcher Sub-committee
This committee of early career researchers and higher degree candidates ensures their greater involvement in the running of the centre.

Membership as at December 2019:
James Grama (ANU)
Tina Gregor (ANU)
Rosey Billington (UM)
Catalina Torres Orjuela (UM)
Luis Miguel Rojas-Berscia (UQ)
Amanda Hamilton-Hollaway (UQ)
Laurence Bruggeman (WSU)
Gloria Pino Escobar (WSU)
Note: Most of the plans below were formulated before the current COVID-19 emergency. It is likely that many will need to be postponed to a later date than originally planned, but in the meantime we include them here, for the record, pending a clearer picture on the course of the pandemic and its aftermath.

Shape research in 2020

The expansion and consolidation of multivarietal language documentation research will be a particular focus in 2020, with a major workshop on this approach planned for later in the year. The workshop will both crystallize the nature of the Centre’s contributions to the development of this novel approach to language documentation, and also provide a forum for Shape researchers to hear from others around the world with similar interests and approaches. It is anticipated that a number of collaborations and publications will arise as a result of these discussions.

New documentation projects begun in 2019 will begin to take shape in 2020, and many existing projects will near completion, resulting in new dictionaries and grammatical descriptions of endangered languages around the region. Shape researchers will continue to engage with theoretical and typological research, bringing new and novel data from underdescribed languages to cross-linguistic questions of phonological and grammatical structure, through key publications and presentations on the national and international stage.

Cross-program collaborations between Shape and Processing researchers will be further expanded in 2020 with the addition of comprehension experiments to the sentence production research being undertaken on Australian free word order languages (CI Rachel Nordlinger, Al Evan Kidd, and Postdoc Gabriela Garrido Rodriguez); as well as new collaborations with CI Anne Cutler and Affiliate Laurence Bruggeman on the processing of complex polysynthetic verbs in Murrinhpatha.

Work on modelling language change through the use of population genetics models (CI Felicity Meakins and team) will be extended to Shawi, a highly endangered Amazonian language for which Postdoctoral Fellow Luis Miguel Rojas-Berscia has curated an extensive corpus, to produce a more nuanced understanding of the role of gender in language change.
Learning research in 2020

In 2019 Gloria Pino Escobar’s PhD research showed that monolingual and bilingual 4-year-olds can more easily learn words from e-books than when presented with the words in Cross Situation Word Learning or in a fast mapping task. Data collection is ongoing and preliminary word learning results show no group difference between bilinguals and monolinguals. In 2020, an individual analysis will be conducted comparing each child’s word learning to their cognitive skills in order to test the hypothesis of whether cognitive skills determine the bilingual advantage. The findings to date are also the basis of a new collaboration with CI Anthony Angwin on word learning using e-books in children with Developmental Language Disorder starting in 2020.

A new collaboration between CIs Paola Escudero and Gillian Wigglesworth looks at language use in multilingual child care settings. This has shown that multilingual children enrolled in community settings that provide support for their home language can have everyday access to similar amounts of English and home language input, as demonstrated in a submitted paper based on data collected at one bilingual early childhood setting in Sydney. CI Escudero and collaborators have finalised a widespread survey to determine the needs and demands for home language support for multilingual children in NSW, which received positive feedback at the 2019 annual conference of the Australian Linguistic Society and will be launched in March/April 2020.

In 2020, we will extend the multilingual day care project in two ways: first, by using methodology tested in field studies to collect data that can be used to document multilingual children’s language development in urban settings; and second, by developing a language learning program aiming to support home language maintenance and prevent language shift in early childhood.

In 2020, the Dhuwaya early literacy app, *Yāku ga Rirakay* (Sounds and Letters), will be introduced into classrooms by teachers and teaching assistants who will be trained in its use. A pre- and post-test will also be administered, based on the assessment app developed by PhD student Gemma Morales, to determine how successfully and at what speed children acquire phonological awareness through the app. The app itself was developed by Fardin Elias of Ohmi Labs in modular form, so other communities who are interested could use the app by changing the sounds and pictures to those appropriate for their own Indigenous languages.

CI Escudero’s Future Fellowship work on children’s ability to learn words incidentally will show whether learning words together with a peer or a tutor (i.e. a child’s parent) influences performance, as part of a newly established collaboration with UQ researchers.
Starting in 2020, the ERLI research team has expanded to include speech pathologists: Dr Bea Staley (CDU) and Kate Short (NSW Health). A national online survey for speech pathologists, educators and others about their experience trialling ERLI has been launched, and will seek information about the strengths and limitations of ERLI in different use contexts.

E-Learning Australia will join with WSU and the Jilkminggan community in 2020 to develop a web app for the Chunkbank framework. This project will be led by Dr Mark Richards and community members Josephine and Helena Lardy. The app will be iteratively developed during 2020 through codesign and evaluation cycles with Aboriginal community members at Jilkminggan NT.

Processing research in 2020

In 2020, there will be progress on all fronts of CoEDL processing research. ‘Across languages’, for instance, the Murrinhpatha speech perception study will shed light on how context-dependent phonetic forms are translated into lexical meaning by native listeners. Results from the New Guinea studies with mobile EEG will be finalised and the prosodic comparisons across Oceanic languages will point to new and testable processing consequences.

‘Across populations and the lifespan’, the neurophysiological bases of cross-situational word learning will be charted as the results of the large-scale EEG mapping study become available. More will be revealed of the neurophysiological correlates of Developmental Language Disorder, as well as the influence of age on word learning in sleep versus in wakefulness.

Across individuals, the Canberra Longitudinal Child Language project will move a year closer to its completion and deliver the by now familiar torrent of new insights into the developmental relationship between different language skills. But this is by no means all: the new explorations of the research intersections of Learning and Processing will also open up further tracts of uncharted terrain (see the highlight box on pg 81).
Evolution research in 2020

In 2019 CI Kim Sterely and Postdoc Ronald Planer completed an important monograph on the evolutionary foundations of language in deep time. That monograph – *From Signs to Symbols* – is now under contract with MIT Press and in 2020 will see the final revisions as it goes to press (see pg 88). In a new collaboration, Planer plans to accompany PhD student Lauren Reed and CI Alan Rumsey to PNG, where they will conduct further study of a shared home sign system in rural areas, as well as field experiments aimed at revealing the theory of mind capacities at work in this home sign system. In a related project, they will also be studying the pragmatics of home sign communication.

The coming year will see the release of papers for the first outputs of the databases that we have been building as part of Glottobank, focussing on the Grambank and Parabank, the largest cross-linguistic datasets ever assembled. This will involve multi-authored papers, to be produced from the Max Planck Institute and ANU poles of Glottobank respectively. The Parabank paper will involve holding a local workshop focussing on data assurance, analytic issues, and selection of questions for the initial publication during the second half of 2020.

As Nick Evans’ Laureate Project on the Wellsprings of Linguistic Diversity draws to a close, PhD students Eri Kashima, Marie Duhamel, Alexandra Marley and Hedvig Skirgård are all expected to graduate during 2020.

In an exciting new collaboration between CoEDL, the California Institute of Technology and the Gurindji people of the NT, CI Felicity Meakins will lead a project to investigate the use of geomagnetic cues by the human brain – a ‘geocentric sixth sense’. Studies identify a surprising number of other languages that rely on geocentric reference cues such as ‘north’, ‘south’, ‘east’ and ‘west’ to express location. Funded by NASA, this project proposes to test this experimentally and will begin with a trip to California by Meakins and three Gurindji collaborators to establish the experimental framework.

To further probe questions around language and society, the Sydney Speaks project will expand the study of class over time and how it interacts with ethnicity. The team is developing methodologies to meaningfully compare the vastly different opportunities available at different time periods and for different groups. Teasing apart the impact of ethnicity and class may shed light on linguistic questions around how changes spread through a community, and on social questions around migrant communities’ relationships with the wider community.

Furthermore, it is known that speakers of non-standard varieties, or those who do not conform to prestige norms, may experience linguistic discrimination. Following on from the success of the 2017 Sydney Speaks App, the new Australia Speaks App, launched in early 2020, seeks to promote awareness of potential linguistic discrimination by having people attempt to judge the background of Australians from hearing short clips of them speaking.
Education, Training and Outreach in 2020

It was a major year for outreach as we honoured the International Year of Indigenous Languages 2019. We were delighted that the United Nation has declared 2022 as beginning the International Decade of Indigenous Languages. In 2020 we will begin planning for activities to celebrate the decade.

For education, training and mentoring, we arranged for the new cohort of higher degree research students to meet CoEDL members at the 2020 CoEDLFest in Brisbane in February, and for some of them to attend the Aboriginal Languages Workshop on Stradbroke Island at the end of February. This provides a solid base of connections to guide them in their research careers.

Plans for education in 2020 have been disrupted by the arrival of the COVID19 virus. The impact is already great (forcing cancellation of student fieldwork in remote Indigenous communities for example). We will be working through 2020 to reduce the impact of the coronavirus outbreak on the students’ research careers. However, we are well-placed to do this, as we had already planned to run the next Summer School in early 2021 instead of at the end of 2020. We have already begun using video-conferencing for workshops – March will see an online field software training session run by PARADISEC and the University of Melbourne.

We intend to continue work with policy-makers and governments on language needs in public policy. We have arranged to work with our partner AIATSIS and the Department of Infrastructure, Transport, Regional Development and Communications on policy work surrounding the launch of the National Indigenous Languages Report. With respect to COVID19 we will be offering advice on communications strategies in small Indigenous languages of the region. Other major policy outreach events include a workshop on understanding Indigenous fire management practices across bioregions and language groups.
Joy Campbell, one of many contributors to the Ngarinyman to English Dictionary, with the dictionary at its launch in Yarralin community, Northern Territory. (See pg 140)
Section 2: People

People
People

Chief Investigators

Assoc Prof Anthony Angwin
Program: Processing/Technologies
Institution: University of Queensland

Anthony Angwin’s research interests are centred around the investigation of neurogenic communication disorders. Anthony is a speech pathologist conducting research on psycholinguistics and neurogenic communication disorders. In particular, his research interests are focussed upon the investigation of communication impairments associated with Parkinson’s disease, stroke and dementia.

Distinguished Prof Anne Cutler
Program: Processing
Institution: The MARCS Institute, Western Sydney University

Anne Cutler studied languages and psychology at the Universities of Melbourne, Berlin and Bonn, taught German at Monash University, but embraced psycholinguistics as soon as it emerged as an independent sub-discipline, taking a PhD in the subject at the University of Texas. Postdoctoral fellowships at MIT and Sussex University followed, and from 1982 to 1993 a staff position at the Medical Research Council Applied Psychology Unit in Cambridge. In 1993 she became a director at the Max Planck Institute for Psycholinguistics in Nijmegen, the Netherlands, a post she held till 2013. She was also professor of comparative psycholinguistics at the Radboud University Nijmegen from 1995 to 2013, and, from 2006 to 2013, part-time Research Professor in MARCS Auditory Laboratories. In 2013 she took up a full-time position at the MARCS Institute.

Prof Paola Escudero
Program: Learning/Processing
Institution: The MARCS Institute, Western Sydney University

Paola Escudero is based at The MARCS Institute. Her main interest within CoEDL is on how the learning of phonetic detail takes place in multilingual communities. She collaborates with CI Kidd (Processing) on statistical learning in monolingual and bilingual infants, with CI Fletcher (Processing/Shape) on comparing Australian English accents, with AI Byrd (Technology Thread) and Postdoc Ellison (Shape) on an app that can be used to collect processing data in the field, and with PhD Kashima, Postdocs Ellison and Schokkin (Shape) on the phonetic description of PNG languages. Paola’s team is also collaborating with CIs Rumsey and Wigglesworth’s teams (Learning) on adapting laboratory methods for testing processing questions in the field, as well as with Postdoc Durantin (Evolution) on EEG analysis techniques that can be applied to individual language learners.
Dr Bethwyn Evans  
Program: Evolution  
Institution: The Australian National University

Bethwyn Evans’s research is focused on language change and language contact, and the role that linguistics plays in understanding our non-linguistic past. She predominantly works on Austronesian and Papuan languages in Bougainville, Papua New Guinea. Beth collaborates with Simon Greenhill on exploring the links between micro- and macro-level processes of language evolution.

Distinguished Prof Nicholas Evans  
Program: Shape/Evolution  
Institution: The Australian National University

Nicholas (‘Nick’) Evans is the Director of the ARC Centre of Excellence for the Dynamics of Language. His central research focus is the diversity of human language and what this can tell us about the nature of human language, culture, deep history, and the possibilities of the human mind. His 2010 book *Dying Words: Endangered Languages and What They Have to Tell Us* sets out a broad program for the field’s engagement with the planet’s dwindling linguistic diversity. Nick has carried out fieldwork on several languages of Northern Australia and Papua New Guinea, particularly Kayardild, Bininj Gun-wok, Dalabon, Ilgar, Iwaidja, Marrku and Nen, with published grammars of Kayardild (1995) and Bininj Gun-wok (2003), and dictionaries of Kayardild (1992) and Dalabon (2004). His ARC Laureate Project The Wellsprings of Linguistic Diversity examines how microvariation at speech community level relates to macro-diversity of languages and language families, and he is leading a team in a cross-linguistic study of how diverse grammars underpin social cognition.

Prof Janet Fletcher  
Program: Processing (& Shape)  
Institution: The University of Melbourne

Janet Fletcher is Professor of Phonetics in the School of Languages and Linguistics. She has held previous appointments at the University of Edinburgh, the Ohio State University, and Macquarie University. Her research interests include phonetic theory, laboratory phonology, prosodic phonology, articulatory and acoustic modelling of prosodic effects in various languages. She is currently working on phonetic variation, and prosody, and intonation in Indigenous Australian languages and has commenced projects on selected languages of Oceania.
She is a member of the Research Unit for Indigenous Language in the School of Languages and Linguistics.

**Assoc Prof Caroline Jones**  
Program: Learning/Technologies  
Institution: The MARCS Institute, Western Sydney University

Caroline Jones’ research is mainly focused on the sound system of Kriol varieties and its acquisition by children. She is also interested in ways of improving efficiency, and making research more accessible or participatory with new technology and is Deputy Leader of the CoEDL Future Technologies Thread. Caroline is currently collaborating with CoEDL CI Professor Gillian Wigglesworth on language acquisition by Aboriginal children (Learning), with CI Catherine Travis on the Sydney Speaks project on variation and change in Australian English (Evolution).

**Assoc Prof Felicity Meakins**  
Program: Shape/Evolution  
Institution: University of Queensland


**Prof Rachel Nordlinger**  
Program: Shape/Learning  
Institution: The University of Melbourne

Rachel Nordlinger is the Director of the Research Unit for Indigenous Language in the School of Languages and Linguistics and Leader of the CoEDL Shape of Language program. Rachel’s research centres around the description and documentation of Australia’s indigenous languages, and she has worked with the Bilinarra, Wambaya, Gudanji, Murrinhpatha and Marri Ngarr communities to record and preserve their traditional languages. She has also published on syntactic and morphological theory, and in particular the challenges posed by the complex grammatical structures of Australian Aboriginal languages. She
leads the multigenerational documentation project of Murrinhpatha, collaborating with Barbara Kelly and CI Gillian Wigglesworth (Learning) on the Language Acquisition of Murrinhpatha project, and CI Evan Kidd (Processing) on research into sentence production processing with Murrinhpatha speakers.

Emeritus Prof Alan Rumsey
Program: Learning
Institution: The Australian National University

Alan Rumsey is a Professor of Anthropology in the School of Culture, History and Language, College of Asia and the Pacific, ANU. His research fields are Highland New Guinea and Aboriginal Australia, with a focus on speech genres and relations among language, culture and intersubjectivity. He is a Fellow of the Australian Academy of Humanities, a past president of the Australian Anthropological Society and the co-convenor of the ANU Pacific Institute. He is currently involved in collaboration with CoEDL Affiliate Francesca Merlan on a major research project on ‘Children’s Language Learning and the Development of Intersubjectivity’, for which he was funded by an ARC Discovery Outstanding Researcher Award during 2013-16, and in collaboration with CoEDL Affiliate Lauren Reed on a study of a sign language in the Western Highlands of Papua New Guinea that is used in communication with deaf people.

Prof Jane Simpson
Program: Shape/Learning
Institution: The Australian National University

Jane Simpson has carried out fieldwork on Indigenous Australian languages since 1979, and is Chair of Indigenous Linguistics at the ANU. Jane has worked collaboratively on numerous Indigenous language resources: the Warlpiri dictionary with Affiliate Mary Laughren; Ngaanyatjarra speech register corpus with postdoctoral fellow Inge Kral, and Affiliates Jenny Green and Lizzy Ellis; a Warumungu dictionary and corpus with postdoctoral fellow Samantha Disray; and with Affiliates Rob Amery and Maryanne Gale on a Ngarrindjeri text corpus. She is also working with CI Gillian Wigglesworth on the language learning experience of Indigenous school children. As Chair of the CoEDL Education Sub-committee, she helps draw together HDR training and other education initiatives, which include the University Languages Portal of Australia.
Kim Sterelny’s main research interests are Philosophy of Biology, Philosophy of Psychology and Philosophy of Mind. He is the author of The Representational Theory of Mind, Thought in a Hostile World and The Evolved Apprentice. He is the co-author of Language and Reality (with Michael Devitt) and Sex and Death: An Introduction to Philosophy of Biology (with Paul Griffiths). His recent work has focused on understanding the evolution of the distinctive features of human social lives, and of the cognitive capacities that make those lives possible, including, of course, language. In addition to philosophy, Kim spends his time eating curries, drinking red wine, bushwalking and bird watching. Kim has been a Visiting Professor at Simon Fraser University in Canada, and at Cal Tech and the University of Maryland, College Park, in the USA.

Nicholas Thieberger’s grammar of Nafsan (South Efate, Vanuatu) was the first to link archival media to the analysis, allowing verification of examples used in analytical claims. In 2003 he helped establish PARADISEC, a digital archive of recorded ethnographic material and is now its Director. He is a co-founder of the Resource Network for Linguistic Diversity (RNLD) and in 2008 he established a linguistic archive at the University of Hawai’i. He is interested in developments in digital humanities methods and their potential to improve research practice and he is now developing methods for creation of reusable data sets from fieldwork on previously unrecorded languages. He is the Editor of the journal Language Documentation & Conservation. He is a Principal Fellow of Linguistics at the University of Melbourne.

Catherine Travis is Professor of Modern European Languages in the School of Literature, Languages and Linguistics at the ANU. Her work addresses questions related to language evolution at a micro level; she applies quantitative methods to probe the impact of linguistic and social factors on language variation and change in the speech community. In the Centre of Excellence, she leads the Sydney Speaks project, a sociolinguistic study of Australian English, examining the speech of Sydney-siders of diverse social backgrounds, recorded at different times, and born over a 100-year period (from the 1890s to the 1990s). A second project, in collaboration with PI Rena Torres Cacoullos (Penn State University), examines outcomes of language contact in a long-standing Spanish-English bilingual community in New Mexico, USA. A co-authored
book deriving from this work, Bilingualism in the Community: Code-switching and Grammars in Contact, has been published by Cambridge University Press.

Distinguished Prof Gillian Wigglesworth
Program: Learning
Institution: The University of Melbourne

Gillian Wigglesworth’s expertise is in first and second language acquisition in monolingual, bilingual and multilingual settings. A major focus of her work is in remote Indigenous communities documenting children’s language learning at home and at school, together with CI Jane Simpson (Shape). She is collaborating with other Learning program members to ensure comparable data collection patterns in the acquisition projects taking place in Australia and Papua New Guinea. Her collaboration with CI Janet Wiles (Evolution) investigates the potential of using robots in remote communities for language development, and with Professor Katherine Demuth (Macquarie University, CI, Centre in Cognition and its Disorders) on assessing Indigenous children’s hearing to determine any relationship to phonological awareness development. She is a Deputy Director of the Research Unit for Indigenous Language and Redmond Barry Distinguished Professor at the University of Melbourne.

Prof Janet Wiles
Program: Evolution/Technologies
Institution: The University of Queensland

Janet Wiles’ research involves bio-inspired computation in complex systems, with applications in cognitive science and biorobotics. She completed a PhD in Computer Science at the University of Sydney, a postdoctoral fellowship in Psychology at the University of Queensland, and served as faculty in the Cognitive Science program for 12 years. In 2003 she formed the Complex and Intelligent Systems research group at the University of Queensland where she has been Professor since 2006. She currently coordinates the UQ node of CoEDL, where her research focuses on social robots and language.
Partner Investigators

Dr Judith Bishop
Program: Archiving/Technologies
Institution: Appen Ltd

Judith Bishop is Director of Linguistic Services at Appen. She has completed an MPhil. in French Literature from Cambridge University, a Masters of Fine Arts (poetry) from Washington University at St Louis, U.S.A., and a PhD in Linguistics from the University of Melbourne.

Prof Morten Christiansen
Program: Processing/Evolution
Institution: Cornell University

Morten H. Christiansen is Professor of Psychology and Co-Director of the Cognitive Science Program at Cornell University, USA, as well as Professor in Cognitive Science of Language at Aarhus University, Denmark, and Senior Scientist at the Haskins Labs, USA. He is the author of nearly 200 scientific papers and has edited four books. His research focuses on the interaction of biological and environmental constraints in the processing, acquisition and evolution of language, using a combination of computational, behavioural, and cognitive neuroscience methods. This research is summarised in his newest book Creating Language: Integrating Evolution, Acquisition, and Processing from MIT Press. He is a fellow of the Cognitive Science Society and the Association for Psychological Science, and delivered the 2009 Nijmegen Lectures.

Distinguished Prof Greville Corbett
Program: Shape
Institution: University of Surrey

Greville Corbett’s research focuses on typology, morphology, morphosyntax; and Slavic and Slavonic languages. He is a founding member of the Surrey Morphology Group and an Honorary Member of the Linguistic Society of America.
Prof Russell Gray
Program: Evolution
Institution: Max Planck Institute for the Science of Human History, Jena

Russell’s research has made significant contributions to the fields of linguistics, animal cognition, philosophy of biology and behavioural phylogenetics. He pioneered the application of computational evolutionary methods to questions about linguistic prehistory. This work has helped solve the 200 year-old debate on the origin of Indo-European languages.

Prof Stephen Levinson
Program: Shape/Processing
Institution: Max Planck Institute for Psycholinguistics, Nijmegen

Stephen Levinson’s research focuses on language diversity and its implications for theories of human cognition. His work attempts both to grasp what this diversity is all about, and to exploit it as a way of discovering the role that language plays in our everyday cognition.

Prof Elena Lieven
Program: Learning/Processing
Institution: University of Manchester

Elena Lieven did her undergraduate degree and her PhD on individual differences in early language development in the Department of Psychology at the University of Cambridge. She came to Manchester in 1979. She was Editor of the Journal of Child Language from 1996–2005. In 1998 Professor Lieven was granted long-term unpaid leave to work at the Max Planck Institute for Evolutionary Anthropology in Leipzig. This funded the Max Planck Child Study Centre from 1998–2014 which was set up in the Manchester Department when she moved to Leipzig. In 2012, she moved back to work in the Manchester School and, as well as continuing as Director of the Child Study Centre, took on the role of Centre lead in the newly formed Centre for Developmental Science and Disorders in the Institute of Brain, Behaviour and Mental Health. In 2014, the ESRC International Centre for Language and Communicative Development (LuCiD) of which Elena is the Centre Director, was established across the Universities of Manchester, Liverpool and Lancaster on a 5-year grant.
Prof Stephen Matthews
Program: Shape/Learning
Institution: University of Hong Kong

Stephen Matthews specialises in language typology, syntax and semantics. His current interests include the typology of Chinese; the grammar of Chinese dialects, notably Cantonese, Chaozhou and other Minnan dialects; language contact and bilingualism, with particular reference to Sinitic languages. He is Co-Director of the Childhood Bilingualism Research Centre.

Prof Miriam Meyerhoff
Program: Evolution/ Learning/Shape
Institution: Victoria University of Wellington

Miriam Meyerhoff completed her PhD at the University of Pennsylvania in 1997 and since then has held academic positions at the University of Hawai‘i at Mānoa, Cornell University, University of Edinburgh and University of Auckland. She has also been a Visiting Professor with Michigan State University, University of Colorado at Boulder, and the University of Agder. Her research deals with language variation and change in its broadest perspective. As well as an active research programme investigating variation in situations of language and dialect contact, she has a long-standing interests in the ways social ideologies affect language use and perceptions of language users. In particular, she is interested in ideologies of gender and language. Her current research is mainly focused on variation and change in the Nkep speaking community of Hog Harbour, Vanuatu.

Assoc Prof Bee Chin Ng
Program: Learning
Institution: Nanyang Technical University

Bee Chin Ng works mainly in the area of bilingualism and multilingualism with a focus on the impact of language contact on individuals and the community they live in. Her research approach is to explore both cognitive and social aspects of language acquisition and use. Currently, she is working on language identity, attitudes and use and language and emotion in multilinguals. She also works in the area of language as a source of intangible heritage with collaborators in art and design studies. She founded the linguistics department in Nanyang Technological University and is currently the Associate Dean of Graduate Studies in the College of Humanities and Social Sciences.
Prof Caroline Rowland  
Program: Learning/Processing  
Institution: University of Liverpool/Max Planck Institute for Psycholinguistics  
Caroline Rowland is a director of the Max Planck Institute for Psycholinguistics, Nijmegen. Her research focuses on how children acquire language, how the language acquisition mechanism interacts with the environment, and how adults and children represent language in the brain.

Prof Rena Torres Cacoullos  
Program: Evolution/Shape  
Institution: Pennsylvania State University  
Rena Torres Cacoullos identifies quantitative patterns in spontaneous speech and historical texts, using variability to demonstrate grammatical similarities and differences, in bilingual communities and in diachronic grammaticalisation processes. She is co-editor of *Language Variation and Change*.

Prof Virginia Yip  
Program: Learning  
Institution: Chinese University of Hong Kong  
Virginia Yip is Professor and Chairperson of the Department of Linguistics and Modern Languages as well as Director of the Childhood Bilingualism Research Centre at the Chinese University of Hong Kong. Her books include *Interlanguage and Learnability* (John Benjamins; 1995) and *The Bilingual Child: Early Development and Language Contact* (Cambridge University Press; 2007) which received the Linguistic Society of America’s Leonard Bloomfield Book Award in 2009. She serves on the editorial board of *Bilingualism: Language and Cognition*, *International Journal of Bilingualism*, *Second Language Research* and *Multilingual Education* and the European Research Council’s panel on the human mind and its complexity.
Associate Investigators

Assoc Prof Daniel Angus
Program: Processing
Institution: Queensland University of Technology

Daniel Angus received the BS/BE double degree in research and development, and electronics and computer systems, and the PhD degree in computer science from Swinburne University of Technology, in 2004 and 2008, respectively. Dr. Angus joined The University of Queensland in 2008 as part of the ARC Thinking Systems initiative, and in 2012 began a strategic initiative in communication technologies between the then School of Journalism and Communication and School of Information Technology & Electrical Engineering.

His research focuses on the development of visualization and analysis methods for communication data, with a specific focus on conversation data. Dr. Angus and colleagues pioneered the development of the Discursis computer-based visual text analytic tool, used to analyse various forms of communication. Discursis has been used to analyse conversations, web forums, training scenarios, among other large and complex datasets, and is featured in numerous journal articles.

Assoc Prof Wayan Arka
Program: Shape/Archiving
Institution: The Australian National University; Universitas Udayana, Denpasar

Wayan Arka is interested in Austronesian and Papuan languages of Eastern Indonesia, language typology, syntactic theory and language documentation. His current project on the typological study of core arguments and marking in Austronesian languages is an extension of his previous collaborative project with Indonesian linguists on the languages of Eastern Indonesia. He is still working on the Rongga materials collected for The Rongga Documentation Project, funded by the Hans Rausing ELDP grant (2004-6). He is also currently doing collaborative research on voice in the Austronesian languages of eastern Indonesia (funded by an NSF grant, 2006-2009), Indonesian Parallel Grammar Project (funded by a near-miss grant from Sydney University (2007) and an ARC Discovery grant (2008-2011), and the languages of Southern New Guinea (funded by an ARC grant 2011-2015).

Assoc Prof Brett Baker
Program: Shape
Institution: The University of Melbourne

Brett Baker is a senior lecturer in linguistics, the author of Word Structure in Ngalakgan (2008), and the co-editor (with Ilana Mushin) of Discourse and Grammar in Australian Languages (2008).
Prof Steven Bird  
Program: Archiving/Shape  
Institution: Charles Darwin University  

Steven Bird is Professor in the Northern Institute at Charles Darwin University. He is developing scalable methods for documenting and revitalising endangered languages, with a focus on the Bininj Kunwok language of West Arnhem.

Prof David Bradley  
Program: Shape  
Institution: La Trobe University  

David Bradley has conducted extensive research on endangered languages, sociolinguistics, historical linguistics, geolinguistics, language policy and phonetics/phonology in Southeast, East and South Asia over many years, especially on Tibeto-Burman languages, as well as on other languages of these areas and on varieties of English. He is a member of the editorial boards of eight international journals and monograph series, the author, co-author, editor or co-editor of over twenty books and five language atlases, several with translation and/or second and third editions; and of numerous other publications.

Prof Denis Burnham  
Program: Learning/Archiving/Technologies  
Institution: MARCS Institute, Western Sydney University  

Denis Burnham is the inaugural Director of MARCS at the Western Sydney University. His current research focuses on experiential and inherited influences in speech and language development: infant speech perception; auditory-visual (AV) speech perception; special speech registers; captions for the hearing impaired; tone languages: lexical tone perception, tone perception with cochlear implants, and speech-music interactions; human-machine interaction; speech corpus studies; and the role of infants’ perceptual experience and expertise, in literacy development.

Prof Michael Christie  
Program: Shape  
Institution: Charles Darwin University  

Michael Christie heads up the Contemporary Indigenous Governance and Knowledge Systems research theme at the Northern Institute, Charles Darwin University. Professor Christie worked in Yolŋu communities as a teacher linguist in the 1970s and 1980s, and started the Yolŋu Studies program at Northern Territory University (now CDU) in 1994. After working within the Faculty of Aboriginal and Torres Strait Islander Studies and the School of Education, he moved to the Northern Institute in 2010. He has over
40 years involvement with bilingual education, linguistics and literature production in the NT, and the ways in which Aboriginal philosophies and pedagogies have influenced the production and use of literature over the years. He is a major contributor to the Living Archive of Aboriginal Languages.

**Prof David Copland**  
Program: Processing  
Institution: University of Queensland

Professor David Copland is a Principal Research Fellow and Speech Pathologist conducting research in the areas of language neuroscience, psycholinguistics, and neuroimaging of normal and disordered language. He is Deputy Chair of the Research and Postgraduate Studies Committee of the UQ School of Health and Rehabilitation Sciences and is a group leader at the UQ Centre for Clinical Research where he leads the Language Neuroscience Laboratory.

**Prof Nick Enfield**  
Program: Shape/Evolution  
Institution: University of Sydney

Nick Enfield’s research addresses the intersection of language, cognition, social interaction, and culture, from three main angles: 1. Semiotic structure and process; 2. Causal dependencies in semiotic systems; 3. Language and Human Sociality. His empirical specialisation is in the languages of mainland Southeast Asia, especially Lao and Kri. Lao is the national language of Laos, spoken by over 20 million people in Laos, Thailand, Cambodia and elsewhere. Kri (Vietic sub-branch of Austroasiatic) is spoken near the Laos-Vietnam border in Khammouane Province by an isolated community of around 300 people.

**Prof Simon Garrod**  
Program: Processing/Evolution  
Institution: University of Glasgow

Simon Garrod holds the Chair in Cognitive Psychology and is director of the INP Social Interactions Centre. His interests in psycholinguistics include reading, dialogue, and the evolution of language and communication. He was awarded the Distinguished Scientific Contribution Award of the Society for Text and Discourse and is a Fellow of the Royal Society of Edinburgh.
Dr Simon Greenhill
Program: Processing/Shape
Institution: Max Planck Institute for the Science of Human History, Jena

Simon Greenhill’s research focus is the evolution of languages and cultures. He has applied computational phylogenetic methods to language and cultural evolution, and used these methods to test hypotheses about human prehistory and linguistic and cultural evolution in general.

Prof Nikolaus Himmelmann
Program: Shape/Archiving
Institution: University of Cologne

Nikolaus Himmelmann has done fieldwork in the Philippines (Tagalog), Sulawesi (Tomin-Tolitoli languages), East Timor (Wäima’a) and West Papua (various languages). He has published widely on a number of core issues in Austronesian grammar, including the nature of lexical and syntactic categories and voice.

Assoc Prof Evan Kidd
Program: Processing/Learning
Institution: The Australian National University/Max Planck Institute for Psycholinguistics, Nijmegen

Evan Kidd is an Associate Professor in the Research School of Psychology at the ANU and is a Senior Investigator at the Max Planck Institute for Psycholinguistics. He completed his PhD in Psycholinguistics at La Trobe University, and has held academic positions at the Max Planck Institute for Evolutionary Anthropology, The University of Manchester, and La Trobe University. His research concentrates on language acquisition and language processing across different languages and in different populations.
**Prof Paul Maruff**  
Program: Processing/Technologies  
Institution: Cogstate

Paul Maruff is one of the founders of Cogstate. He is a neuropsychologist with expertise in the identification and measurement of subtle behavioural and cognitive dysfunction. Paul’s research integrates conventional and computerised neuropsychological testing with cognitive neuroscientific methods to guide decision making in drug development and in clinical medicine.

**Prof Francesca Merlan**  
Program: Learning  
Institution: The Australian National University

Francesca Merlan’s research interests include: social transformation; indigeneity, nationalism; language and culture; theories of social action, organisation, and consciousness; modernity; segmentary politics; exchange emergent identities; gender, social and cultural transformation in North Australia; the transformation of place-worlds among Aboriginal people; the building of Australian national identity in relation to indigeneity; land claims; applied anthropology; and sites and heritage issues. Her research covers many geographies and nationalities, including Australia, Papua New Guinea, and North America, particularly American Indian communities and surrounding (rural) communities and towns.

**Assoc Prof Ilana Mushin**  
Program: Learning  
Institution: University of Queensland

Ilana Mushin has a long-standing interest in the management of knowledge in discourse. Her recent research has included epistemic stance-taking in Australian Aboriginal communities; grammatical description of Garwa, a critically endangered Aboriginal language; and, more recently, on the English-based vernacular languages spoken by most Aboriginal people in Australia today. She is the author of a number of books.
Assoc Prof Amy Perfors
Program: Learning/Processing
Institution: University of Melbourne
Amy Perfors is an Associate Professor and Deputy Director of the Complex Human Data Hub. Amy graduated from MIT in 2008 with a PhD in brain and cognitive sciences. Her research program spans concepts, decision-making and language, including hypothesis generation and testing, the representation and acquisition of complex concepts, the social assumptions underlying decision making and inference, language acquisition, linguistic and cognitive evolution, and statistical learning. Using computational and primarily Bayesian mathematical models coupled with empirical work. Her publications can be found in many of the premier journals in psychology, including Psychological Review, Trends in Cognitive Sciences, Cognition, Cognitive Science, and Cognitive Psychology. She has received extensive grant support from the ARC, including a DECRA and two Discovery Projects.

Dr Carmel O’Shannessy
Program: Shape/Learning
Institution: The Australian National University
Carmel O’Shannessy is currently documenting a newly emerged mixed language in northern Australia, Light Warlpiri, the emergence of which is the result of code-switching between an Australian language, Warlpiri, and English and Kriol (an English-lexified creole). Her current projects include diachronic changes in nominal case-marking from Warlpiri to Light Warlpiri, and grammaticalisation and innovation in the Light Warlpiri auxiliary system. Of particular interest is the role of children in grammaticalisation processes.

Prof Luc Steels
Program: Evolution/Technologies
Institution: Universitat Pompeu Fabra; Sony
Luc Steels studied linguistics at the University of Antwerp (Belgium) and computer science at the Massachusetts Institute of Technology (USA). His main research field is Artificial Intelligence covering a wide range of intelligent abilities, including vision, robotic behavior, conceptual representations and language. He founded the Sony Computer Science Laboratory in Paris in 1996 and became its first director. Currently he is ICREA research professor at the Institute for Evolutionary Biology (CSIC,UPF). During the past decade he has focused on theories for the origins and evolution of language using computer simulations and robotic experiments to discover and test them.
Jakelin Troy is a Ngarigu woman whose country is the Snowy Mountains of New South Wales, Australia. Her academic research is diverse but has a focus on languages and linguistics, anthropology and visual arts. She is particularly interested in Australian languages of New South Wales and ‘contact languages’. Her doctoral research was into the development of NSW Pidgin. Since 2001 Jakelin has been developing curricula for Australian schools with a focus on Australian language programs.

Adam Vogel leads the Centre for Neuroscience of Speech at The University of Melbourne where his team work towards improving speech, language and swallowing function in people with progressive and acquired neurological conditions. He is a recipient of an NHMRC Dementia Fellowship, a senior role in the Department of Audiology and Speech Pathology at The University of Melbourne and a Fellowship based at the Hertie Institute for Clinical Brain Research, Tübingen Germany. He is also Chief Science Officer of Redenlab, a US-Australian company providing speech testing, analysis and consultancy in clinical trials.

Brendan Weekes is an experimental psychologist who studies the psychology of language and memory – specifically word recognition and recall. He examines cognitive processes using cross-linguistic, neuropsychological and brain imaging methods. His research can be applied to understanding problems in clinical neuropsychology including bilingual aphasia, dementia and reading difficulties. He is Chair in Communication Science at the University of Hong Kong and Director of the Communication Science Laboratory at HKU, where he has been since 2010. Prior 2010, he was a Reader in Experimental Psychology at the University of Sussex for ten years.
**Research Associates and Fellows**

**Dr Andrew Back**  
Program: Technology/Evolution  
Institution: The University of Queensland  

Andrew has a background in machine learning algorithms and architectures, higher order statistics and signal processing. He has held positions with the Department of Defence, NEC Research Laboratories (USA), RIKEN (Japan) and founded a software company developing tools for computational finance. He has developed large scale computer models for high impact systems including a commercial model of the wholesale electricity prices across Australia. His particular current interests are in the development of probabilistic information theoretic entropic models, which can be used to analyse natural language, estimate learning time and predict analytical model performance.

**Dr Danielle Barth**  
Program: Shape  
Institution: The Australian National University  

Danielle Barth completed her PhD at the University of Oregon where her research investigated the interface between syntax, phonetics and information theory. In her research she uses empirical data drawn from corpora, experiments and descriptive fieldwork. She is currently working on building a multilingual corpus built from data collected by multiple researchers on 20 languages from around the world. Her project will focus on finding, describing and comparing inter- and intra-language variation as it relates to the expression of social cognition, using descriptive and quantitative methodologies.

**Dr Rosey Billington**  
Program: Shape  
Institution: The University of Melbourne  

Rosey is a postdoctoral researcher at the University of Melbourne. She is currently researching the phonetic and phonological patterns of South Efate, an Oceanic language of Vanuatu, together with CIs Fletcher and Nick Thieberger. This project focuses on the correlates of prosodic phenomena such as stress, and the ways that prosodic patterns interact with phonotactic and morphosyntactic structures. For her PhD research, Rosey worked on a phonetically-based description of the phonology of Lopit, an Eastern Nilotic language traditionally spoken in South Sudan.
Dr Laurence Bruggeman
Program: Processing
Institution: Western Sydney University
Laurence is a Postdoctoral Fellow in spoken-language processing at the MARCS Institute (Western Sydney University). She obtained her PhD in psycholinguistics from Western Sydney University 2016, for research investigating first and second language speech processing in Dutch emigrants in Australia. Laurence then spent two years as a postdoctoral researcher in the Child Language Lab at Macquarie University, where she investigated speech processing in children with hearing loss. She joined CoEDL in September 2018 to work with CI Anne Cutler in the Processing Program.

Dr Matthew Carroll
ELDP funded
Program: Shape
Institution: The Australian National University
Prior to commencing at the Centre with an ELDP funded Postdoctoral Fellow position, Matt was Newton International Fellow at the Surrey Morphology Group where he retains visitor status. He researches the boundary between redundant and distributed structures in the architecture of language, grounded in traditional qualitative linguistics (typology and description) using mathematical and formal models to make explicit the assumptions and practices of these approaches. He researches language from an evolutionary perspective in which grammar is an emergent property of broader cognitive principles. Linguistics is fundamentally an empirical endeavour and Matt works with data primarily drawn firsthand from fieldwork in the region east of Merauke in West Papua (Indonesian Papua), specifically the Yam language groups of Kanum and Yei.

Dr Lucy Davidson
Program: Learning
Institution: The University of Melbourne
Lucy is a Postdoctoral Research Fellow at the University of Melbourne, whose primary interests lie in the development of language use by children, specifically Indigenous children in Australia. For her PhD (through the ARC funded project, Language Acquisition in Murrinhpatha, based at the University of Melbourne), Lucy explored the linguistic and sociocultural understandings of children aged 3 to 7 who are learning the traditional Australian language, Murrinhpatha, as their first language. In her current position she continues to work with Murrinhpatha speakers at Wadeye, NT, with Dr Barbara Kelly and CI Gillian Wigglesworth, on their project investigating children’s acquisition of narratives. Lucy is also conducting research with Pitjantjatjara speaking children in the remote community of Pipalyatjara, SA, the focus of which is children’s development of nominal case marking.
Dr Rebecca Defina
Program: Learning
Institution: The University of Melbourne

Rebecca joined the Centre from the Max Planck Institute for Psycholinguistics in Nijmegen. For her PhD there, she investigated relationships between linguistic and conceptual event representations, with a focus on serial verb constructions in Avatime (a Kwa language spoken in Ghana). She is now carrying out a longitudinal study of acquisition in Pitjantjatjara, developing a corpus of naturalistic language use and narratives from children and their caregivers. She is also continuing her work on event segmentation, looking at how Pitjantjatjara children learn to use complex predicates and how the alignment between syntactic, gestural, and conceptual event units develops.

Dr Samantha Disbray
Program: Shape/Learning
Institution: The University of Queensland

Samantha Disbray has worked in Central Australia as a community and research linguist for over 20 years. For her PhD at the University of Melbourne she carried out a developmental study of children’s Wumpurrarni English, drawing on a longitudinal study of acquisition of this contact language, spoken in Tennant Creek. In her current project she is repatriating historical recordings and preparing a corpus of texts in Warumungu, the traditional language of Tennant Creek, collaborating with Prof Jane Simpson and community members to prepare a dictionary and learning materials. She continues to support and research languages in education, particularly the Northern Territory Bilingual Education Program.

Dr Seamus Donnelly
Program: Processing/Learning
Institution: The Australian National University

Seamus received his PhD in Educational Psychology from the City University of New York in 2016. His dissertation research was a meta-analysis of studies comparing monolinguals and bilinguals on executive control tasks. He came to CoEDL to work under the supervision of Dr. Evan Kidd on the Canberra Longitudinal Child Language Project. His current research interests include usage-based approaches to the study of language acquisition and statistical methods for analysing longitudinal and eye-tracking data.
Dr Cris Edmonds-Wathen
Program: Shape
Institution: The University of Melbourne
Cris Edmonds-Wathen researches how mathematics is expressed in different languages. In her current postdoctoral position at the Research Unit for Indigenous Language, she investigates children’s mathematical language in Mawng, a language of northern Australia. For her PhD she investigated spatial language in Iwaidja, also in northern Australia. She worked on the comparison of mathematics tasks in different languages during a postdoc at Umea University, Sweden and has also worked on a project to improve the teaching of mathematics in Papua New Guinea.

Dr Elizabeth Ellis
ARC Discovery Indigenous Fellow
Program: Shape
Institution: The Australian National University
Elizabeth Marrkilyi Ellis is a Ngaatjatjarra educator, interpreter and linguist from the Ngaanyatjarra region of Western Australia. Over recent years she has collaborated with Inge Kral on a research project documenting Western Desert speech styles and changing modes of communication across the generations.

Dr T. Mark Ellison
ARC Wellsprings Fellow
Program: Evolution
Institution: The Australian National University
Mark Ellison studied Pure Mathematics at the University of Sydney, but even then was interested in language change and reconstruction. At the University of Western Australia, this interest evolved into a PhD on machine learning and phonology. The focus on phonology lead to three years research work in Computational Phonology at the University of Edinburgh, and subsequent lecturing in Cognitive Science there. Mark left academia in 1998 to learn Polish and work in IT. At the University of Western Australia he used Experiment Semiotics to model language origins prior to joining the Wellsprings of Linguistic Diversity project at ANU. Mark recently joined the Universität zu Köln as Senior Research Fellow at its Collaborative Research Centre for Prominence in Language.
Dr Simón González Ochoa  
Program: Evolution  
Institution: The Australian National University  
Simón’s research focuses on acoustic phonetics, empowered by computational tools. His experience is mainly on Australian English, after finishing his PhD in English Phonology (Australian English) at the University of Newcastle, and working as a Research Assistant at Griffith University analysing West Australian English (ARC-funded, led by Gerard Docherty). He develops computational tools (scripts and apps) for more efficient and practical analysis/visualisation of phonetic and phonological phenomena. Currently he is part of two projects at ANU: Sydney Speaks (CI Catherine Travis) and the Transcription Acceleration Project (CIs Nick Evans and Janet Wiles), both ARC-funded through CoEDL.

Dr Murray Garde  
ARC Wellsprings Fellow  
Program: Evolution  
Institution: The Australian National University  
Murray Garde was trained as a linguistic anthropologist at Charles Darwin University (Grad Dip. Arts) and Queensland University (PhD). Since 1988 he has been working with Bininj Gunwok speakers of Western Arnhem Land and also from 1996 with Sa speaking communities of Pentecost Island in Vanuatu. Murray’s interests span an eclectic range of cross-disciplinary topics including studies of person reference and conversation analysis, translation and interpreting, kinship, social organisation and language variety, song language, ethnobotany and ethnozoology, language and ethnophysiology, toponomy and traditional ecological knowledge and its application in land management. He currently coordinates the Bininj Gunwok Language Project, funded by the federal government’s Indigenous Language Support program. His book *Culture, Interaction and Person Reference in an Australian Language* is an ethnography of speaking focusing on person reference in Bininj Gunwok.

Dr James Grama  
Program: Evolution  
Institution: The Australian National University  
James completed his PhD at the University of Hawai‘i at Mānoa where he focused largely on vocalic variation in English and English-based varieties. His work on California English, Hawai‘i English, and Hawai‘i Creole has investigated the ways in which phonetic variation is correlated with social factors and sound change over time. In his research, he uses quantitative acoustic measures along with rigorous statistical models to describe how changes in linguistic varieties have taken shape, especially in heterogeneous communities. At the Centre, he works as a member of the Sydney Speaks project.
Dr Clair Hill
Program: Learning
Institution: Western Sydney University
Clair Hill is a Postdoctoral Fellow at Western Sydney University. She has special interest and expertise in Australian languages, particularly those of north-eastern Cape York Peninsula. For her PhD research (MPI Nijmegen and University of Leuven), Clair investigated the organisation of a highly interactive mode of multi-party storytelling employed by Umpila and Kuuku Ya’u speakers. Her work has also involved team-based collaborative projects on cross-cultural variation in semantics and interaction, language documentation and language revitalisation, and translating research into useful language learning products with the community. In her current position within CoEDL, Clair works with CI Caroline Jones on early language development in Australian language settings.

Dr Peter Hurst
Program: Shape
Institution: The University of Melbourne
Peter completed his PhD at the University of Melbourne with Prof Rachel Nordlinger, examining the reciprocal constructions in Icelandic (Germanic), Malagasy (Austronesian) and Swahili (Bantu) in order to determine the variability of their non-standard syntax. He now works with Ian Green and Rachel Nordlinger on the Daly Languages website – a database driven website that presents these languages and their related literature in an accessible manner.

Dr Anton Killin
Program: Evolution
Institution: The Australian National University
Anton completed his PhD in Philosophy at Victoria University of Wellington on music and philosophical naturalism, combining research topics in philosophy of music and evolution of music. His postdoctoral research at CoeDL focuses on the intersection of music and language, in particular the connections between evolution of music and evolution of language. In addition to these topics, Anton’s research interests include philosophy of biology and philosophy of the arts more broadly.
Dr Inge Kral
Program: Shape/Learning
Institution: The Australian National University

Inge is a linguistic anthropologist working with Elizabeth Ellis on Western Desert speech styles and verbal arts in the Ngaanyatjarra Lands region of Western Australia. Co-affiliated with the Centre for Aboriginal Economic Policy Research (CAEPR-ANU), Inge draws on some thirty years’ experience in Indigenous education, language and literacy in remote Australia. As an ethnographer of language and literacy her research interests include literacy as social practice; adolescent language socialisation; out-of-school learning; and youth, digital media and new literacies.

Dr Jacki Liddle
Program: Technology
Institution: The University of Queensland

Jacki Liddle is a postdoctoral research fellow and occupational therapist researching quality of life, participation and life transitions. She uses innovative technology, along with qualitative and quantitative research methods to investigate the needs and experiences of people living with neurological conditions (Parkinson’s disease, dementia, stroke). Her PhD research led to the development of the UQDRIVE program, now called CarFreeMe for older drivers. Jacki is currently working on the Florence Project.

Dr Debbie Loakes
Program: Processing
Institution: The University of Melbourne

Debbie is a phonetician at The University of Melbourne working on both Indigenous languages and Australian English. She has carried out collaborative work on prosody in Mawng, and postdoctoral research focusing on a sound change (a vowel merger) in Australian English. Debbie’s postdoctoral project for the Centre of Excellence is a sociophonetic study of Aboriginal English, bringing together an analysis of speech production, speech perception, and social factors. Participants are (English L1) Indigenous people from Warrnambool, where the vowel merger occurs in the Anglo-Celtic community. Debbie is particularly interested in whether this merger is present in production and perception for the Indigenous community.
Dr Doug Marmion  
Program: Shape  
Institution: AIATSIS  

Doug taught in central Australia where he began learning the Western Desert Language and studying linguistics. He then took up the position of Senior Linguist at the Yamaji Language Centre in Geraldton, WA, working with speakers of languages of the region (including Wajarri, Badimaya, Nhanda and Malgana) to document those languages and develop strategies for their maintenance and revival. Following this Doug completed a PhD in linguistics at the ANU with a description of Wutung, a Papua New Guinea language. He joined AIATSIS in 2010 as Linguistics Research Fellow where one of his projects is working with the Ngunawal community of Canberra on the revival of their language. Doug was co-author on the first (2005) and second (2014) National Indigenous Language Surveys and is one of the lead authors of the Curriculum Framework for Aboriginal and Torres Strait Islander Languages. Doug’s work for the Centre is focused on the AIATSIS archives and drawing on language materials held there to construct corpora of Australian languages.

Dr Bruno Olsson  
Program: Evolution  
Institution: The Australian National University  

Bruno’s postdoctoral research project focuses on the development and typology of Papuan languages, with special attention to the languages of the Anim family in Southern New Guinea. For his PhD at Nanyang Technological University in Singapore, Bruno carried out extensive documentation of Coastal Marind, an Anim language that displays a wealth of typologically interesting features, and his current work on related Anim languages aims to shed light on the processes that led to this language family being so different from other Papuan languages. Bruno is also planning to investigate the broader typological characteristics of Papuan languages, partly by using cross-linguistic databases.

Dr Ola Olsson  
Program: Technology/Evolution  
Institution: The University of Queensland  

Ola received his PhD in real-time computer graphics from Chalmers University of Technology in 2014. His research focussed on massively parallel algorithms running on Graphics Programming Units (GPUs), primarily solving real-time graphics problems involving many lights. He has a broad interest in High-Performance Computing (HPC) and GPU-algorithm design and development, and has assisted HPC-application development, for example fusion-plasma simulation targeting the Titan, the world #3 supercomputer. Ola is involved in computational aspects of Opie, a social robot in development at UQ, as well as assisting anywhere in CoEDL where high computational throughput is required.
Dr Ronald Planer
Program: Evolution
Institution: The Australian National University

Ronald J. Planer received his PhD in Philosophy, along with a Certificate in Cognitive Science, from Rutgers University, New Brunswick (USA). His doctoral research examined the theoretical role of informational concepts in molecular, developmental, and evolutionary biology. He is currently focused on a cluster of issues related to the evolution of language, among them: foundational models of communication, the pathways by which different types of communication systems emerge and how they interact with one another, the relevance of gesture and musical vocalisation to the evolution of linguistic communication, and more.

Dr Sonja Riesberg
Program: Shape
Institution: The Australian National University/Universität zu Köln

Sonja Riesberg is a field linguist working on Austronesian (Western Malayo-Polynesian) and Papuan (Trans New-Guinea) languages. She is currently working on the documentation and description of Yali, a West Trans New-Guinea language, spoken in the highlands of West Papua. Sonja is also strongly involved in capacity building measures in Papua, especially at the Centre for Endangered Languages Documentation (CELD) in Manokwari.

Dr Luis Miguel Rojas-Berscia
Program: Shape/Evolution
Institution: The University of Queensland

Luis commenced with the Centre at our UQ Node in mid-September 2018. Luis attained his PhD within the Language in Interaction Research Consortium (currently located at the Max Planck Institute for Psycholinguistics in Nijmegen, The Netherlands). His research was from two main axes: linguistic theory and grammatical description.
Dr Dineke Schokkin  
ARC Wellsprings Fellow  
Program: Shape  
Institution: The Australian National University

After a BA in Dutch Language and Culture at Utrecht University, Dineke Schokkin did a research MA in Linguistics at the University of Amsterdam. Her thesis was a sociolinguistic study focusing on the use of discourse markers and style shifting in the construction of identity by adolescents of Dutch, Turkish and Moroccan background. Dineke continued with a PhD at James Cook University, Cairns, which entailed a reference grammar of Paluai, an Oceanic language spoken on Baluan Island, Manus Province, Papua New Guinea. Based on two lengthy field trips, the grammar covers various aspects of the language including phonology, morphology, lexicon, syntax, semantics and discourse/pragmatics. While mainly focusing on synchronic language description, Dineke was at the same time interested in variation across the community: which social factors would come into play here and to what extent. Another area of specific interest were language contact phenomena in Paluai, in particular through contact with Tok Pisin, the creole serving as lingua franca in most parts of PNG.

Dr Ruth Singer  
ARC Wellsprings Fellow  
Program: Shape  
Institution: The Australian National University/The University of Melbourne

Ruth is a Postdoctoral Fellow at the Research Unit for Indigenous Language, School of Languages and Linguistics, University of Melbourne. Her project looks at how language is used at Warruwi Community, a remnant site of small-scale multilingualism in western Arnhem Land (Australia). She also has a Discovery project with CI Janet Fletcher and Dr Marija Tabain to look at intonation and information structure in three Australian languages. Ruth has a PhD in Linguistics from Melbourne University, has been a postdoctoral fellow with the Language and Cognition group, Max Planck Institute for Psycholinguistics (Nijmegen, The Netherlands).
Dr Rachel Sluis  
Program: Processing  
Institution: The University of Queensland/Bond University  

Rachel Sluis completed her PhD in clinical psychology at Griffith University on the Gold Coast. Her doctoral research examined the impact of executive functioning on cognitive maintaining features of social anxiety disorder, such as repetitive negative thinking. Rachel is a postdoctoral research fellow and psychologist working on the Florence Project with a focus on the development of communication technology to support conversational breakdown for people living with dementia and their carers.

Dr Alba Tuninetti  
Program: Learning/Processing  
Institution: Western Sydney University  

For her PhD at the University of Pittsburgh, Alba examined how similarity to the first language, training, feedback, and cue strength influence the neural and behavioral processing of nonnative phonemes in another language using EEG and behavioral methodologies. At the centre, she works with Dr. Paola Escudero where she is interested in examining how the acoustics of the first language influence the perception of nonnative phonemes with EEG. She is also interested in bilingual speech, accent perception and language processing more generally.

Dr David Wilkins  
Program: Shape  
Institution: The Australian National University  

David Wilkins is an anthropological linguist who explores the relationship between language use, culture and cognition. His publications range across lexical semantics, pragmatics, semantic change, gesture, aphasia and augmentative and alternative communication. He has done fieldwork in central Australia and Far North Queensland. In the area of documentary and descriptive linguistics, he is currently working to show how and why the current model of grammar, dictionary and texts needs to be complemented by a grammar of language use, an ethnosesaurus, an ethnography of speaking, an account of a community’s paralinguistic repertoire, and the interface of language with other culturally available semiotic systems.
**PhD Students**

<table>
<thead>
<tr>
<th>Name</th>
<th>Program</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alina Ajayan</td>
<td>Technology</td>
<td>University of Queensland</td>
</tr>
<tr>
<td>Denise Angelo</td>
<td>Learning and Shape</td>
<td>The Australian National University</td>
</tr>
<tr>
<td>Samuel Armstrong</td>
<td>Technology</td>
<td>University of Queensland</td>
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<tr>
<td>Joshua Arnold</td>
<td>Technology</td>
<td>The University of Queensland</td>
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<tr>
<td>Zurab Baratashvili</td>
<td>Shape</td>
<td>The Australian National University</td>
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<tr>
<td>Jessica Bazouni</td>
<td>Processing</td>
<td>Western Sydney University</td>
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<tr>
<td>James Bednall</td>
<td>Shape</td>
<td>The Australian National University</td>
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<tr>
<td>Nicola Bell</td>
<td>Processing</td>
<td>The University of Queensland</td>
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<tr>
<td>Mat Bettinson</td>
<td>Shape</td>
<td>The University of Melbourne</td>
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<td>Katie Bicevskis</td>
<td>Shape</td>
<td>The University of Melbourne</td>
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<tr>
<td>Cathy Bow</td>
<td>Shape and Learning</td>
<td>The Australian National University</td>
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<tr>
<td>Emma Browne</td>
<td>Learning</td>
<td>The Australian National University</td>
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<tr>
<td>Mitch Browne</td>
<td>Shape</td>
<td>The University of Queensland</td>
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<tr>
<td>Lydia Byrne</td>
<td>Technology</td>
<td>The University of Queensland</td>
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<tr>
<td>Matthew Callaghan</td>
<td>Evolution</td>
<td>The Australian National University</td>
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<tr>
<td>Bonnie Cheng</td>
<td>Processing</td>
<td>The University of Queensland</td>
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<tr>
<td>Joshua Clothier</td>
<td>Shape</td>
<td>The University of Melbourne</td>
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<tr>
<td>Claudia Cialone</td>
<td>Learning</td>
<td>The Australian National University</td>
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<td>Noelle Creaghe</td>
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<tr>
<td>Carlo Dalle Ceste</td>
<td>Evolution</td>
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<tr>
<td>Domi Dessaix</td>
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<td>Marie-France Duhamel</td>
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<td>David Ferris</td>
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<td>Ben Foley</td>
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<td>Leonard Freeman</td>
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<td>Kristina Gallego</td>
<td>Evolution</td>
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<tr>
<td>Amy Gibson</td>
<td>Technology</td>
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<tr>
<td>Manuel David Gonzalez Perez</td>
<td>Shape</td>
<td>The Australian National University</td>
</tr>
</tbody>
</table>

**People**
James Gray  
Program: Shape  
Institution: The Australian National University

Tina Gregor  
Program: Shape  
Institution: The Australian National University

Amanda Hamilton-Hollaway  
Program: Shape  
Institution: The University of Queensland

Huade Huang  
Program: Evolution  
Institution: The Australian National University

Bruno Ippedico  
Program: Evolution  
Institution: The Australian National University

Kathleen Jepson  
Program: Shape  
Institution: The University of Melbourne

Ivan Kapitonov  
Program: Shape  
Institution: The University of Melbourne

Eri Kashima  
Program: Shape  
Institution: The Australian National University

Ana Krajinović  
Program: Archiving  
Institution: The University of Melbourne

Eleanor Lewis  
Program: Processing  
Institution: The University of Melbourne

Stephen Mann  
Program: Evolution  
Institution: The Australian National University

Alexandra Marley  
Program: Shape  
Institution: The Australian National University

Zara Maxwell-Smith  
Program: Shape and Evolution  
Institution: The Australian National University

Saliha Muridoğlu  
Program: Shape  
Institution: The Australian National University

Katerina Naitoro  
Program: Evolution  
Institution: The Australian National University

Meredith Osmond  
Program: Evolution  
Institution: The Australian National University

Gloria Pino Escobar  
Program: Learning and Processing  
Institution: Western Sydney University

Susan Poetsch  
Program: Shape and Learning  
Institution: The Australian National University

Kyla Quinn  
Program: Evolution  
Institution: The Australian National University

Mark Richards  
Program: Processing  
Institution: Western Sydney University

Ashleigh Richardson  
Program: Technology  
Institution: University of Queensland

Nikodem Rybak  
Program: Technology  
Institution: The University of Queensland

Emma Schimke  
Program: Processing  
Institution: University of Queensland

Eleana Sheard  
Program: Evolution  
Institution: The Australian National University

Kristyn Sommer  
Program: Technology  
Institution: The University of Queensland

Carly Steele  
Program: Learning  
Institution: The University of Melbourne

Jonathon Taufatofuia  
Program: Technology  
Institution: University of Queensland

Philip Thierfelder  
Program: Learning  
Institution: The University of Melbourne

Alister Thorpe  
Program: Shape  
Institution: The University of Melbourne
Alumni

Samra Alispahic
Former Centre role: PhD
Program: Processing
Former Centre location: Western Sydney University
Year left Centre: 2016
New position: MARCs Institute

Christina Atay
Former Centre role: Research Fellow
Program: Technology
Former Centre location: University of Queensland
Year left Centre: 2017
New position: Queensland Brain Institute

Mat Bettinson
Former Centre role: PhD
Program: Shape
Former Centre location: Western Sydney University
Year left Centre: 2019
New position: Charles Darwin University

Rosey Billington
Former Centre role: Research Fellow
Program: Technology
Former Centre location: University of Melbourne
Year left Centre: 2017
New position: Research Associate, University of Melbourne

Timothy Brickell
Former Centre role: Research Fellow
Program: Shape
Former Centre location: University of Melbourne
Year left Centre: 2018

Lydia Byrne
Former Centre role: PhD
Program: Technology
Former Centre location: University of Queensland
Year left Centre: 2019

Matthew Carroll
Former Centre role: PhD
Program: Shape
Former Centre location: Australian National University
Year left Centre: 2017
New position: Postdoctoral Fellow, Australian National University

Jiyoun Choi
Former Centre role: PhD
Program: Processing
Former Centre location: Western Sydney University
Year left Centre: 2017
New position: Hanyang University, Seoul

Claudia Cialone
Former Centre role: PhD
Program: Shape
Former Centre location: Australian National University
Year left Centre: 2019
New position: Warddeken Land Management Ltd

Don Daniels
Former Centre role: Research Fellow
Program: Shape
Former Centre location: Australian National University
Year left Centre: 2018
New position: Associate Professor of Linguistics, University of Oregon
Greg Dickson  
Former Centre role: Research Fellow  
Program: Shape/Evolution  
Former Centre location: University of Queensland  
Year left Centre: 2019  
New position: Health and Kriol Literacy Advisor, Ngukurr Community, Northern Territory

Daniela Diedrich  
Former Centre role: PhD  
Program: Shape/Archiving  
Former Centre location: University of Melbourne  
Year left Centre: 2019

Samantha Disbray  
Former Centre role: Research Fellow  
Program: Shape  
Former Centre location: Australian National University  
Year left Centre: 2019  
New position: University of Queensland

Sally Dixon  
Former Centre role: PhD  
Program: Shape  
Former Centre location: Australian National University  
Year left Centre: 2017  
New position: University of Jena, Germany

Gautier Durantin  
Former Centre role: Research Fellow  
Program: Technology  
Former Centre location: University of Queensland  
Year left Centre: 2018  
New position: Senior Consultant, IBM Interactive, France

Anne Dwyer  
Former Centre role: PhD  
Program: Learning  
Former Centre location: Western Sydney University  
Year left Centre: 2019  
New position: Research, Monitoring & Evaluation Specialist, Uniting Australia, Campbelltown

Cris Edmonds-Wathen  
Former Centre role: Research Fellow  
Program: Shape  
Former Centre location: University of Melbourne  
Year left Centre: 2019  
New position: Charles Darwin University

Elizabeth Ellis  
Former Centre role: Research Fellow (ARC Discovery Ingenious Fellow)  
Program: Shape  
Former Centre location: Australian National University  
Year left Centre: 2019

T. Mark Ellison  
Former Centre role: Research Fellow  
Program: Wellsprings  
Former Centre location: Australian National University  
Year left Centre: 2019  
New position: University of Cologne

Jaydene Elvin  
Former Centre role: PhD  
Program: Processing  
Former Centre location: Western Sydney University  
Year left Centre: 2017  
New position: MARCs Institute

Mark Esponza  
Former Centre role: PhD  
Program: Learning  
Former Centre location: University of Melbourne  
Year left Centre: 2019  
New position: University of Chile, Santiago

Amy Gibson  
Former Centre role: PhD  
Program: Technology  
Former Centre location: University of Queensland  
Year left Centre: 2019

Jennifer Green  
Former Centre role: Research Fellow  
Program: Shape  
Former Centre location: University of Melbourne  
Year left Centre: 2016  
New position: University of Melbourne

Simon Greenhill  
Former Centre role: Chief Investigator  
Program: Evolution  
Former Centre location: Australian National University  
Year left Centre: 2016  
New position: MPI Jena

Scott Heath  
Former Centre role: Research Fellow  
Program: Technology  
Former Centre location: University of Queensland  
Year left Centre: 2019  
New position: Software developer for Polymathian
Martin Ip  
Former Centre role: PhD  
Program: Processing  
Former Centre location: Western Sydney University  
Year left Centre: 2019  
New position: University of Pennsylvania

Katie Jepson  
Former Centre role: PhD  
Program: Processing  
Former Centre location: University of Melbourne  
Year left Centre: 2019

Ivan Kapitonov  
Former Centre role: PhD  
Program: Shape  
Former Centre location: University of Melbourne  
Year left Centre: 2019

Eri Kashima  
Former Centre role: PhD  
Program: Wellsprings  
Former Centre location: Australian National University  
Year left Centre: 2019  
New position: University of Helsinki

Ana Krajinovic  
Former Centre role: PhD  
Program: Archiving  
Former Centre location: University of Melbourne  
Year left Centre: 2019

Heather Kember  
Former Centre role: Research Fellow  
Program: Processing  
Former Centre location: Western Sydney University  
Year left Centre: 2017  
New position: Hunter Institute of Mental Health, NSW Health

Evan Kidd  
Former Centre role: Chief Investigator  
Program: Learning  
Former Centre location: Australian National University  
Year left Centre: 2018  
New position: Associate Professor, MPI Nijmegen

Sebastian Lecrampe  
Former Centre role: Research Fellow  
Program: Archiving  
Former Centre location: University of Melbourne  
Year left Centre: 2016  
New position: CAP Research, Australian National University

Amit Malegaonker  
Former Centre role: Research Fellow  
Program: Technology  
Former Centre location: University of Queensland  
Year left Centre: 2017  
New position: University of Hertfordshire

John Mansfield  
Former Centre role: Research Fellow  
Program: Shape  
Former Centre location: University of Melbourne  
Year left Centre: 2018  
New position: DECRA, University of Melbourne

Caroline McKinnon  
Former Centre role: PhD  
Program: Technology  
Former Centre location: University of Queensland  
Year left Centre: 2017

Karen Mulak  
Former Centre role: Research Fellow  
Program: Processing  
Former Centre location: Western Sydney University  
Year left Centre: 2018  
New position: Research Fellow, University of Maryland

Katerina Naitoro  
Former Centre role: PhD  
Program: Evolution  
Former Centre location: Western Sydney University  
Year left Centre: 2019

Sophie Nicholls  
Former Centre role: Research Fellow  
Program: Processing  
Former Centre location: Western Sydney University  
Year left Centre: 2017

Ola Olsson  
Former Centre role: Research Fellow  
Program: Technology  
Former Centre location: Western Sydney University  
Year left Centre: 2019  
New position: Chalmers University of Technology

Jia Hoong Ong  
Former Centre role: PhD  
Program: Processing  
Former Centre location: Western Sydney University  
Year left Centre: 2017  
New position: Nanyang Technological University, Singapore
Uta Reinöehl
Former Centre role: Research Fellow
Program: Shape
Former Centre location: Australian National University
Year left Centre: 2017
New position: University of Cologne

Hannah Sarvasy
Former Centre role: Research Fellow
Program: Learning
Former Centre location: Australian National University
Year left Centre: 2018
New position: DECRA, Western Sydney University

Stefan Schnell
Former Centre role: Research Fellow
Program: Shape
Former Centre location: University of Melbourne
Year left Centre: 2018
New position: Lecturer, University of Bamberg

Matthew Spike
Former Centre role: Research Fellow
Program: Evolution
Former Centre location: Australian National University
Year left Centre: 2018
New position: Teaching Fellow, University of Edinburgh

Anna Stephen
Former Centre role: Research Fellow
Program: Learning
Former Centre location: University of Melbourne
Year left Centre: 2018
New position: Northern Territory Hearing

Hywel Stoakes
Former Centre role: Research Associate
Program: Processing
Former Centre location: University of Melbourne
Year left Centre: 2018
New position: School of Computer and Electrical Engineering, University of Auckland

Alba Tuninetti
Former Centre role: Research Fellow
Program: Learning
Former Centre location: Western Sydney University
Year left Centre: 2019
New position: Bilkent University Ankara, Turkey

Jill Vaughan
Former Centre role: Research Fellow
Program: Processing
Former Centre location: University of Melbourne
Year left Centre: 2016
New position: Norwegian University of Science and Technology

Paul Vrbik
Former Centre role: Research Fellow
Program: Technology
Former Centre location: University of Queensland
Year left Centre: 2018
New position: Assistant Professor, University of Toronto

Jason Weigel
Former Centre role: PhD
Program: Technology
Former Centre location: University of Queensland
Year left Centre: 2017
New position: GovHack

Mengue Wu
Former Centre role: PhD
Program: Processing
Former Centre location: University of Melbourne
Year left Centre: 2017
New position: Shanghai Jiao Tong University

Yvonne Yu
Former Centre role: Research Fellow
Program: Technology
Former Centre location: University of Queensland
Year left Centre: 2018
New position: Software/Research Engineer, Amazon, Brisbane

Yaris Xueqing Zhong
Former Centre role: PhD
Program: Learning/Shape
Former Centre location: Australian National University
Year left Centre: 2019
New position: Australian National Dictionary Centre
People

Professional staff

Romina Paskotic
Chief Operating Officer

Joanne Allen
Director EA & Operations Coordinator

Jessie Wu (Until June 2019)
Finance & Operations Coordinator

Susan Jiang (From September 2019)
Finance & Operations

Martin Blaszczyk
Communications & Outreach Manager

Julia Miller
Senior Data Manager

Ben Foley
TAP Manager

Wolfgang Barth
Corpus Manager

Peter Worthy
Florence Project Manager

Amanda Piper
Canberra Longitudinal Child Language Project Officer

Belinda Hofmeyr
University of Melbourne Node Coordinator

Rebecca Adams
University of Queensland Node Coordinator

Siobhain O’Leary
Western Sydney University Node Coordinator

Affiliate Members

(Note: Does not include Affiliates in CoEDL positions on previous pages or alumni)

Cynthia Allen
Australian National University

Mark Amengual
University of California, Santa Cruz

Robert Amery
Adelaide University

Avery Andrews
Australian National University

Mark Antoniou
Western Sydney University

Joanne Arciuli
University of Sydney

Rebecca Armstrong
University of Queensland

Louise Baird
Australian National University

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Ngunnawal elder Tyronne Bell welcomes participants to the 24th biennial International Conference on Historical Linguistics, at ANU in July. (Director Nick Evans in background. See pg 68)
SECTION THREE

RESEARCH
The central goals of the Shape program are to tackle the enormous task of documenting the vast linguistic diversity of our region, to investigate the ways in which a greater understanding of this diversity can inform our models of how languages are structured and used by their speakers, and how they are processed and acquired. We also work to support Indigenous communities of Australia and the region in their language.
revival and maintenance efforts. These many goals have been substantially progressed in 2019, the UN International Year of Indigenous Languages (IYIL2019), through many events, significant publications and extensive research across all programs, the highlights of which are outlined below.

Shape researchers were involved in the organisation of a number of significant international conferences during the year:

Hosted by the Centre’s ANU node, the 24th biennial International Conference on Historical Linguistics continued and expanded a proud tradition by presenting both renowned and exciting new voices in the many domains of the field, including methods and practices of reconstruction, formal approaches to change, historical sociolinguistics and contact linguistics. While featuring languages from across the world, in IYIL2019, ICHL24 highlighted the very diverse languages and language families of our region, especially those of Australia, mainland Southeast Asia and New Guinea. With a truly multi-disciplinary focus, the conference brought together around 250 participants and highlighted new advances in computational and phylogenetic approaches, and new ways of placing the field within trans-disciplinary understandings of the human past.

Immediately following, and also at the ANU, was the 24th International Lexical-Functional Grammar Conference (LFG2019), which welcomed work within the formal architecture of LFG as well as typological, formal, and computational work within the ‘spirit of LFG’ as a lexicalist approach to language employing a parallel, constraint-based framework. LFG2019 also featured a Teach-in on using Lexical-Functional Grammar in diachronic linguistics. Around 30 attendees were treated to the expertise of three experts in this sub-field from the United Kingdom: Professor Kersti Börjars (University of Manchester), Professor Nigel Vincent (University of Manchester) and Professor Louisa Sadler (University of Essex). These conferences, as well as the 18th International Congress of Phonetic Sciences (see the Processing chapter) involved dozens of CoEDL members as organisers, keynote speakers, presenters, chairs and facilitators

Underdescribed and endangered languages of our region

It was an exciting year in the Shape program as we saw a number of language documentation projects completed and new ones begin. New documentation projects were established in Papua New Guinea (Ipiko, Eibela, Sonia), Indonesian Papua (Yei, Yaqay), Vanuatu (Eton, Lelepa), and Australia (Kukatja, Pintupi/Luritja), bringing the number of endangered language communities that Shape researchers have worked with to well over 140.

Completed projects include a number of CoEDL PhD and MA dissertations which focus on the documentation of endangered and underdescribed languages of the region, in many cases constituting the only significant documentation available on the language. These include Daniela Diedrich’s PhD on Paku (Kalimantan), Marie-France Duhamel’s PhD on Ragu (Vanuatu), Katie Jepson’s PhD on Djamparrpuyngu (Australia), Ivan...
Kapitonov’s PhD on Kunbarlang (Australia), Eri Kashima’s PhD on Nmbo (PNG), Lauren Reed’s MA on sign languages of the Papua New Guinea Highlands and Yarjis Xueqing Zhong’s PhD on Western Yugur (China).

Many substantial language documentation projects continue across Australia and our region, revealing interesting findings and new understandings about language diversity and the nature of human language. This work is also important in supporting the efforts of local communities to maintain and promote their languages, and leads to the development of community-oriented resources and materials that contribute to these goals.

Dictionaries are detailed yet accessible repositories of language knowledge and are therefore extremely important to their communities. The year saw the publication of a significant number of endangered language dictionaries involving Shape program researchers and, in many cases, our partner institution the Australian Institute of Aboriginal and Torres Strait Islander Studies. The work involved in producing these dictionaries is enormous and a significant part of CoEDL’s efforts to support language communities in their language-related goals. The following dictionaries were published in 2019:

- Centre Director Nick Evans’ *Nen dictionary* was the first major dictionary of a Papuan language to appear in online format and is also the first published dictionary of a language of the Yam family.

- CoEDL members Jennifer Green, Amanda Hamilton-Hollaway, Felicity Meakins, David Osgarby and Rob Pensalfini, along with Rebecca Green, were co-compilers of the *Mudburra to English Dictionary*. (See box on pg 70.)

- In November, an updated and substantially revised second edition of the *Alyawarr to English Dictionary* was launched at Arlparra, in the Utopia homelands (NT). Compiled by Jennifer Green, David Blackman and David Moore with over 100 Alyawarr contributors, the new edition is a 442-page volume that includes an additional 1,000 entries and 2,500 example sentences.

- The first dictionary for Ngarinyman, a language of the central-western Northern Territory, was launched at the 2019 AIATSIS Research Conference in July, and is the result of a 25-year collaboration between 30 community members and seven linguists. The *Ngarinyman to English Dictionary* was co-compiled by CoEDL CIs Caroline Jones and Felicity Meakins, with Eva Schultze-Berndt and Jessica Denniss.
The Ngarrindjeri Dictionary: (concise) 2nd edition contains over 500 additional words and provides convenient, portable access to a Ngarrindjeri-to-English wordlist plus a finder list (English-to-Ngarrindjeri). In a community driven effort, Affiliate Mary-Anne Gale worked with Phyllis Williams, Ngarrindjeri Elder and the co-founder of Miwi-inyeri Pelebiambi Aboriginal Corporation (SA), to substantially enlarge the original 2009 resource.

Mudburra dictionary launched

The Mudburra to English Dictionary was launched in Elliott (NT) by the Hon Warren Snowdon MP, federal Member for Lingiari, on 20 November to celebrate the UNESCO International Year of Indigenous Languages. It is the result of a 40-year collaboration between the Mudburra community and linguists, most recently from CoEDL. The dictionary contains Mudburra words with English translations, illustrations and detailed encyclopaedic information about plants, animals and cultural practices, as well as place names and a grammar guide. This is also the first Indigenous language dictionary to include QR code links to videos of signs (170 signs also with photographs), organised by Postdoc Jennifer Green and CI Felicity Meakins.

Ray Dixon, Mudburra elder and contributor to the dictionary, said it’s up to the community to keep the language alive. “Our elders started this dictionary and we don’t want to lose our language – it’s a valuable thing,” he said. “We want to use the Mudburra dictionary in schools so that young kids can learn and be proud of their language.” Fellow community member and co-compiler Eleanor Dixon agrees: “This is a humbling experience to see the hard work of my old people come to life. It’s been something they have envisioned for us to help us preserve our language.”
Ongoing projects between the Shape and Processing programs were bolstered in 2019 by the appointment of Postdoc Gabriela Garrido Rodriguez, who is working with CI Rachel Nordlinger and AI Evan Kidd on sentence processing in Australian languages, focussing particularly on issues of free word order. In 2019, the team extended their experimental work to Pitjantjatjara and will look to conduct related comprehension experiments in 2020.

**Significant publications**

In addition to dictionaries, Shape researchers published a number of significant books and publications in 2019. Highlights include:

- *Archival Returns: Central Australia and Beyond*. Edited by Affiliate Linda Barwick, Postdoc Jennifer Green and Petronella Vaarzon-Morel, this edited collection features many chapters by CoEDL members. It explores the strategies and practices by which cultural heritage materials can be returned to their communities of origin, and the issues this process raises for communities, as well as for museums, galleries, and other cultural institutions.

- *Lexical-Functional Grammar: An Introduction*, co-authored by Kersti Börjars, CI Rachel Nordlinger and Louisa Sadler, is a commissioned textbook that provides the first truly introductory guide to the theoretical framework of LFG2019 and is bound to be very popular in syntax courses across the world. It was launched at the LFG Conference in Canberra in July by Professor Joan Bresnan, one of the founders of the framework.

- Alumnus John Mansfield published *Murrinhpatha Morphology and Phonology* in the De Gruyter / Pacific Linguistics series. It provides a detailed investigation of the unique word structures in this fascinating Daly region (NT) language. The book also explores the cross-linguistic applicability of the notion of the ‘word’, arguing that Murrinhpatha has some construction types that fall somewhere between word and phrase status.
Postdoc Bruno Olsson, along with co-editors Francesca Di Garbo and Bernhard Wälchli, published a two-volume edited series entitled *Grammatical Gender and Linguistic Complexity*, containing 13 chapters exploring grammatical gender across languages of the world seen through the prism of linguistic complexity.

A paper resulting from a collaboration between Shape and *Evolution* researchers on developing new methods for understanding language change based on population genetics models was published in *Language*, the world’s premier linguistics journal. ‘Birth of a contact language did not favour simplification’ was co-authored by CI Felicity Meakins, Affiliates Lindell Bromham and Xia Hua, and Cassandra Algy.

**Developing materials for communities**

Shape researchers work closely with communities across Australia and the region to produce resources and materials that support community efforts to maintain and preserve linguistic and cultural heritage. In addition to the enormous task of producing dictionaries, a number of other community-oriented projects were underway in 2019.

- The Bábbarra Women’s Centre project, documenting the ancestral and cultural stories behind the artists’ designs at the centre, in the languages of the Maningrida region (especially Kuninjku, Burarra, Ndébbana and Gurr-goni), began in 2019 and will continue into 2020. Led by Affiliate Jill Vaughan, high-quality audio-visual recordings of the artists telling the design stories in community and on country will be transcribed and translated to produce subtitled videos for public use and community records. Mentoring of new community language workers is at the centre of this project and one of its key strengths.

- Two University of Melbourne Summer Scholars at ANU, Romi Hill and Eleanor Jorgensen, worked closely with Patricia Ellis, a Dhurga elder, to help her Dhurga dictionary achieve publication.

- New PhD student Terry Morgan has begun a project building on the linguistic descriptive work of the Mudburra language by helping the remote Marlinja community to develop a coordinated program of language revitalisation. At this early stage, the principal activity is an attempt to understand what language revitalisation means for Mudburra people, how they imagine it happening and what ideas they have for how it should proceed.
Corpus development

It was a big year for the CoEDL corpus project, bolstered by a very successful and productive Corpus workshop in April. The size of the collection has increased tenfold over the 12 months, to contain 29 corpora from 27 under-represented languages. We have over 2.7 million words from 4,664 files in the collection, with the biggest corpus being Bislama (1,359,124 words). The collection can be seen, used and referenced online in an ANNIIS corpus visualization framework at http://www.corpus.dynamicsoflanguage.edu.au/. We also set up a website where language community members can listen to stories from our collection in their language (available at www.gerlingo.com). This way, the data becomes accessible to the people who produced it. (For more see the chapter on our Archiving Thread.)

Other CoEDL corpus achievements in 2019 included:

- a large curated corpus of Ngaanyatjarra verbal arts deposited in PARADISEC – the most extensive collection of verbal arts for any Australian Indigenous language.
- significant developments in extending the Dalabon (Australia) corpus. Director Nick Evans and Dalabon speaker Manuel Pamkal have transcribed a recording made in 1969 of a Dalabon speaker probably born around 1915 – the earliest-born Dalabon speaker for whom we have a recording. Until now no living Dalabon person had been able to make sense of the very rapid and esoteric speech in this recording, so this transcription is a major achievement.
- CoEDL and PARADISEC are participating in the True Echoes project of the British Library, bringing digital versions of wax cylinder recordings back to Melanesian countries and Torres Strait Island communities. We ran a workshop in Sydney in November with representatives from regional cultural centres and will continue to work on this over the next two years.
- The cross-linguistic semantic typology project SCOPIC now contains 27 languages with an annotated cross-linguistic corpus of 369,511 words. New corpora brought into SCOPIC during 2019 include Jakarta Indonesian, Malay, Jinghpaw, Sibe. (For more, see the National and International Linkages chapter.)

Multivarietal language documentation

In this research strand, we move language documentation beyond the traditional approach and turn the spotlight on intergenerational and intercommunity variation and change. This strand saw significant advancements in 2019, with two collaborative meetings that focussed on bringing together the many multivarietal documentation projects underway across the Centre, and articulating the distinctiveness of the CoEDL approach and the benefits to the field of doing language documentation in this way. This is planned to be the focus of an international workshop in 2020 which will position CoEDL at the forefront of this elaborated approach to language documentation.
Learning Program

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Associate Professor Caroline Jones
Professor Alan Rumsey
Professor Jane Simpson
Professor Elena Lieven
Professor Stephen Matthews
Professor Miriam Meyerhoff
Associate Professor Bee Chin Ng
Professor Caroline Rowland
Professor Virginia Yip
Professor Denis Burnham
Associate Professor Evan Kidd
Professor Francesca Merlan
Dr Carmel O’Shanessy
Dr Danielle Barth
Dr Lucinda Davidson
Dr Rebecca Defina
Dr Seamus Donnelly
Dr Hannah Sarvasy
Dr Alba Tuninetti
Dr Inge Kral
Dr David Wilkins
Dr Marie Boden
Professor Katherine Demuth
Dr Samantha Disbray
Dr Marco Espinoza
Dr John Giacon
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Dr Barbara Kelly
Dr Jessica Korte
Gretel McDonald
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Denise Angelo (PhD)

Jessica Bazouni (PhD)
Cathy Bow (PhD)
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Claudia Cialone (PhD)
Noelie Creaghe (PhD)
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Leonard Freeman (PhD)
Kate Jones (PhD)
Gemma Morales (PhD)
Susan Poetsch (PhD)
Anjilkurri Rhonda Radley (PhD)
Maddie Radnan (PhD)
Mark Richards (PhD)
Carly Steele (PhD)
Philip Thierfelder (PhD)
Catalina Torres Orjuela (PhD)
Jesse Tran (PhD)
Nicole Traynor (PhD)
Yarjis Xueqing (Norah) Zhong (PhD)
Amit German (MPhil)
Lauren Reed (MPhil)

The Learning program focuses on how children and adults learn languages in contexts that are acutely under-researched, but which are of social, educational and economic importance for Australia and its place in our region. Four doctoral scholars submitted their theses during 2019: Mark Richards, Jesse Tran, Kakeru Yazawa (all from WSU) and Noelie Creaghe (ANU); and Amit German (WSU) and Lauren Reed (ANU) graduated with their MPhil degrees. Two further WSU students successfully upgraded from MPhil enrolment to PhD: Anjilkurri Radley and Kate Jones. A very successful collaborative workshop was held between members of the Learning and Processing programs (see highlight box on pg 81).
Documenting children’s acquisition of under-described languages

Most of our understanding and theoretical models of how children learn languages results from work on European, and to a lesser extent Asian, languages. CoEDL researchers are redressing this with studies of children’s learning of under-described languages in Australia and Papua New Guinea.

The multigenerational study of Pitjantjatjara in the Anangu Pitjantjara Yankunytjatjara (APY) lands continues with the longitudinal child language corpus being collected by Postdoc Rebecca Defina in two communities: Pukatja (formerly Ernabella) and Mimili. Child language data is now also being collected by Postdoc Lucy Davidson in another Pitjantjatjara community, Pipalyatjara/Kalka, 340 km to the west on the Western Australian border. This will allow researchers to examine possible dialectal differences between the communities.

In each community, ten children are recorded at least twice per year with the help of Indigenous colleagues who work as research assistants and are co-authors on publications. Currently, the corpus contains 200 hours of recording from Pukatja/Mimili and 21 hours from Pipalyatjara/Kalka (video and audio). PhD student Sasha Wilmoth has been working alongside the project since 2018, investigating aspects of grammatical variation across the generations of speakers.

The multigenerational study of Murrinhpatha continues, funded by a Discovery Project, ‘Learning to tell a story in Murrinhpatha’ led by CI Gillian Wigglesworth and Affiliate Barbara Kelly. All data has now been collected and most of it is transcribed. The final part of the project will involve providing feedback to the school on the children’s language.

In PNG, CI Alan Rumsey and Affiliates Francesca Merlan and Lauren Reed continued to explore issues arising from the data that has been recorded over the past six years for Rumsey and Merlan’s project on Ku Waru children’s language socialisation. The three of them completed an in-depth study of how the children learn clause chaining – a kind of syntactic construction that is of central importance in many languages of the world, and for the comparative understanding of children’s acquisition of complex syntax. Rumsey’s research team also prepared and deposited a corpus of transcripts of Ku Waru children’s speech in ACQDIV, a Swiss-based international archive of children’s speech from areas of the world which are greatly unrepresented in child language studies.

Continuing with their work on Ku Waru deaf sign languages, including their use by children, Reed and Rumsey gave presentations on aspects of it at the 13th triennial conference on Theoretical Issues in Sign Language Research in Hamburg. Moreover, Lauren Reed’s Master’s thesis on ‘Sign languages of Western Highlands, Papua New Guinea, and their challenges for sign language typology’ earned her an ANU University Medal for outstanding academic performance.

Also in PNG, Hannah Sarvasy (whose Postdoc with the Centre concluded in 2019) finalised a three year project that
collected and fully transcribed 112 hours of Nungon child language data. With over 18 months of recordings transcribed for each of the four original children in the study, the corpus served as the basis for a major research article on the root nominal stage in the use of early Nungon verbs in the Journal of Child Language. Sarvasy then went on to do a more intensive repeat study with a second group of three children.

**Indigenous children and the language of schooling in remote communities**

The first ten levels of the development of the iPad app, Yäku ga Rirrakay (Sounds and Letters) for teaching phonological awareness in Dhuwaya to children attending the bilingual Yirrkala Community School were completed in 2019, with the next 10 levels to be completed in 2020. The activities include a range of skills such as segmentation, blending, suffixes and sight words. The app was trialled extensively during the year and changes were made to ensure it was both enjoyable and motivating for the children. It will be introduced into the classroom in 2020. A short app-based test has been developed as a pre-test to determine the children’s progress.

CI Wigglesworth’s group ARC Discovery Project ‘Towards culturally inclusive language assessments for Indigenous students’ began in June 2018 after a slow start due to delays in obtaining ethics approvals. Data has now been collected from nine schools in Western Australia from children in grades 1, 3 and 5. With the goal of collecting language from 200 children, the project records five children at each grade level in each school for around 60-90 minutes, half in the classroom and half in the playground. The recordings are then transcribed and the children’s language use is analysed to identify the range of languages and dialects they use. The remaining data will be collected in 2020 from schools in the Northern Territory now that ethics approvals have been provided.
LEARNING PROGRAM

CI Wigglesworth together with Affiliates Katherine Demuth and Mridula Sharma continued the audiological and English phonological awareness testing of Indigenous students in remote schools with two central Northern Territory schools. An ARC Linkage grant application with the Northern Territory Department of Education as partner will be submitted in April 2020 to extend the program further.

Measuring children’s language learning

The ERLI (Early Language Inventory) Project has created a new, authorised adaptation of the MacArthur-Bates Communicative Development Inventories, designed with and for Australian Indigenous families. Led by CI Caroline Jones, the ERLI research team has finalised the app and paper versions of the 120-item checklist of early expressive and receptive vocabulary and hand signs for children aged 0-3 years. ERLI is suited to children from multilingual backgrounds, being based on parent interviews with children growing up speaking varieties of English, Kriol and other languages (traditional and world languages).

A child receives credit on ERLI for each item, in whatever language(s) they know for that item. This means that the ERLI tool is potentially useful for children in urban areas whose families mainly use Aboriginal ways of speaking English at home. Aboriginal student and research assistant Chantelle Khamchuang will continue trialling ERLI with western Sydney families as she begins her Honours thesis year in 2020.

The ERLI tool fills a need for culturally and linguistically appropriate assessment of home language(s) in very young children, at an age when health and educational programs can have particular impact. In 2019, the ERLI team continued a partnership with Hearing Australia, National Acoustic Laboratories (NAL), Wurli-Wurlinjang Aboriginal Health Service and Tharawal Aboriginal Corporation, to cross-validate NAL checklists of hearing and communication (PLUM, HATS) with the ERLI tool. It also worked to co-design with Aboriginal professionals a suite of resources and training materials on how to use and interpret the tools (supported by funding to NAL from the Department of the Prime Minister and Cabinet). The immediate benefits for participating families included full audiometric assessments for children on waitlists, and follow-up. ERLI was also launched by Caroline Jones, Jaidine Fejo and Eugenie Collyer with a presentation at the 2019 Speech Pathology Australia Conference, where more than 100 speech pathologists collected an ERLI kit.
A large team of WSU linguists, psychologists, speech pathologists and educators led by CI Caroline Jones have recently created a new short-form checklist version of the Australian English Communicative Development Inventory, the OZI Short Form (OZI-SF). In 2019, an initial benchmark dataset was collected for 200 monolingual and multilingual children in Sydney. In her PhD project, speech pathologist Kate Jones has trained community nurses in the administration of the OZI-SF and is assessing its suitability for children from multilingual and lower-SES families in south-western Sydney, as a tool for monitoring development and referral options.

Data collection is almost complete in AI Evan Kidd’s Canberra Longitudinal Child Language project. The project is following approximately 130 children aged 9 months to 5 years, with the aim of charting how their language processing skills relate to their language acquisition. The cohort has now completed every testing session up to the age of 4 years, with a substantial number having completed the entire study. The final children will ‘graduate’ from the study in October 2020, with several papers now out and under review. In a second longitudinal study (ARC Discovery Project, ‘Discovering sources of individual differences in child language acquisition’), Kidd and colleagues have investigated how individual differences in statistical learning related to children’s grammatical and literacy development. Data collection is now complete, with several papers in submission and preparation.

**Language revitalisation**

Documentation of Aboriginal languages is fundamental research undertaken in the Shape program. There is also a need for research into how languages can be revitalised: an evidence base for processes and outcomes in learning and teaching, across adult and child learning contexts. Languages teacher Mark Richards completed his PhD project, which trialled an approach to support adult Indigenous learners of Mangarrayi to collaboratively learn their language and make resources through a novel approach: a database of archival audio utterances. This work will be expanded in 2020 through the development of an app and further collaborative projects with the Jilkminggan community in the Northern Territory.

PhD student and Aboriginal educator Anjilkurri Rhonda Radley, has completed two studies to assess the effectiveness of using gestures to teach Gathang language in immersive teaching in community preschools within her Birpai community in Port Macquarie (NSW). Results indicate that gestures promote children’s early receptive learning of Gathang nominals and suffixes, and are viewed positively by other classroom educators.
Mechanisms of language learning and multilingual learning

Cross-situational word learning (CSWL) models ambiguous scenarios, proposing that new word-referent associations are formed by tracking the co-occurrence of words and candidate referents across encounters. CI Paola Escudero and former Postdoc Karen Mulak have shown that infants and adults can learn words that only differ in a single sound, also known as minimal pairs, suggesting that this mechanism can be exploited for encoding phonetic detail. In 2019, they showed that encoding of phonetic detail in CSWL was affected by the level of ambiguity, with a higher degree of ambiguity affecting vowel minimal pairs more than consonant minimal pairs. The collaboration between CIs Escudero and Anthony Angwin (Processing), testing CSWL of auditory versus written word forms, continued in 2019 with data analysis and began a novel extension of this work using neurophysiological techniques (i.e. EEG).

In 2019 Escudero, Mulak and PhD student Nicole Traynor submitted a paper on multilingual learning, with the first report on bilingual infants’ success at learning minimal pairs earlier than 18 months in the switch task; and when words are produced by a monolingual speaker rather than a bilingual speaker of their two languages. This finding that bilingual infants match monolingual performance despite the mismatch between the speaker's language background and their language environment suggests a bilingual advantage in early word learning.

CI Escudero’s Future Fellowship currently tests children’s ability to learn words incidentally, which is claimed to take place as a result of exposure to language in an everyday context, such as ‘story-time’ reading. Data from child care centres showed that three- to four-year-olds can easily learn and retain novel words presented within an audio-visual e-book. In 2019, the project further tested if the same learning success was shown when the narrator of the book spoke with an accent other than the children’s native accent; if the story was presented two or four times; and if children were growing up in the US or in Australia. The results show that all three factors (accent, repetitions, and country) play a role in learning accuracy.

In 2020, this research will analyse the data of these three first studies and include the effect of parent-child and peer interaction in incidental word learning of minimal pairs.

WSU researchers Jaidine Fejo and Chantelle Khamchuang demonstrate how to do the ERLI in the training video.
Collaboration is a Learning Process

CoEDL is a necessarily collaborative environment, but we can always get even better! In August, members of the Learning program and the Processing program met in Melbourne for a two-day workshop organised by their leaders, CIs Gillian Wigglesworth and Anne Cutler. The workshop followed the International Congress of Phonetic Sciences which had brought nearly all participants to Melbourne anyway (and incidentally left them in an appropriate mood of excitement with a buzz of new ideas!). The workshop started with each participant presenting an ultra-brief account of their current research topics. The next part involved a ‘speed-dating’ session of 153 ‘dates’ (18 full participants in 17 pairings each). The brief was: what happens if we put our current topics and projects together?

The results were legion. They ranged from exploiting a different perspective for advice on a particular issue, through planning a workshop or special conference session to capitalise on multiple viewpoints, to putting two results together to shed new light on possible explanations, and, in many cases, to devising completely new experiments and projects. Some ideas came from two Learning researchers, some from two Processing researchers, many from one of each. Even people who collaborate daily were moved to try out new perspectives. Researchers who normally sit in adjacent offices at the same node without ever previously working together were inspired on this occasion to think about combining their ideas. Collaborative magic was in the air!

Just a few months after the workshop, some outcomes are already visible. In May 2020, the Speech Pathology Australia conference will be held in Darwin where CI Wigglesworth, and Postdocs Debbie Loakes and Lucy Davidson will be co-presenting a workshop on the sound systems of Australian Aboriginal languages. Experiments by CI Paola Escudero (WSU) with Postdoc Debbie Loakes and PhD student Josh Clothier (both UM) have established that production of the /ɛ/-æ/ contrast is in fact the only significant difference between Melbourne and Sydney English. This suggests at last an account of why in Melbourne, in some environments, this contrast has merged while in Sydney it has not: the distinction speakers make between the vowels is smaller in Melbourne than in Sydney. More projects are developing. One firm result is clear: all participants are now thoroughly in favour of this kind of workshop!
The processing of speech is a busy scientific field worldwide. But most research concerns processing of just one language, age group, or linguistic structure. The CoEDL processing program, in contrast, addresses spoken-language processing in all its variations: across languages and across dimensions of language structure; across individual language users as well as across language communities; and across the lifespan, from the earliest to the later moments.

**Across individuals**

Since CoEDL began, the Canberra Longitudinal Child Language (CLCL) Project, led by AI Evan Kidd, has been tracking the typically developing language skills of around 120 children, aged from nine months through to five years. In 2019, the first group finished their final test sessions and graduated from the CLCL! In fact the entire cohort has now completed the first 10 sessions, taking them up to age four. An overall picture is therefore beginning to emerge.

One goal of CLCL is to understand the relationship between children’s environment and their language development. One approach to this question involved using a recording device that families took home. This device measures the number of conversational turns between the child and caretaker, which can then be compared to the child’s vocabulary as measured by a vocabulary checklist filled in by parents. Both the number of conversational turns and the vocabulary size steadily increase, of course. But between nine and 24 months these increases were not independent, as the two variables proved to influence each other: increases in vocabulary led to
PROCESSING PROGRAM

Increases in conversational turns, which led to further increases in vocabulary. The overall message here is not only that engaging in conversation is important for language development, but also, more profoundly: infants themselves are active participants in their own language development, in that their bids for conversation help improve their own vocabulary.

Consistent with this, PhD student Nicole Traynor (WSU) has found that at 15 months, children detect a vowel switch in nonsense monosyllables produced in adult-directed speech (ADS) but not in the same syllables produced in infant-directed speech (IDS). This runs counter to claims that IDS always facilitates language learning, but reinforces the importance of interaction with adults that appears in the CLCL data.

Further insight into cross-individual variation arose from Martin Ip’s research for his 2019 WSU PhD on the production and perception of prosody in the two phonologically contrasting languages, English and Mandarin (see previous updates in Annual Reports 2015-2018). Four Australian English talkers, recorded for an experiment on listeners’ use of prosodic cues to semantic focus, each signalled focus with different combinations of pitch, duration and pausing cues. A comparative experiment revealed that listeners could successfully make use of every cue combination (though one solitary cue was ineffective). Thus although individual talkers may vary in the prosodic structure they create, listeners are flexible enough to deal with their choices.

Similar perceptual stability appeared when Postdoc Debbie Loakes, together with Josh Clothier and John Hajek (all UM) and CI Paola Escudero (WSU), examined listeners’ categorisation of Australian vowels across three test occasions spanning six years; there was impressive consistency, even for categorisations involving vowels that were in the process of merging.

**Across populations and across the lifespan**

Here, research undertakings using electroencephalography (EEG) have made significant progress. Affiliate Kartik Iyer (UQ), with David Copland and CI Anthony Angwin (UQ), applied a unique measure of brain connectivity – dynamic causal modelling – to show that cortical responses during language processing in people with post-stroke aphasia were predictive of subsequent treatment-related improvements in language function. A new project involving Iyer, CI Escudero, CI Angwin and Postdoc Rebecca Armstrong (UQ) will now apply a similar technique to explore relationships between brain connectivity, semantic processing and word learning in children with Developmental Language Disorder (DLD).

CIs Angwin and Escudero have further launched a project using EEG to explore the neurophysiological mechanisms underpinning cross-situational word learning across age and modality. Building on their pilot, Samuel Armstrong’s new PhD project at UQ aims to develop an EEG-based
brain computer interface that can predict language learning success and naming errors. This research will later be expanded to include people with post-stroke aphasia.

Nicola Bell was awarded her UQ PhD in 2019 for her studies of literacy development in children with cochlear implants. Her work revealed greater reading difficulties in such children, despite their spelling skills resembling those of typically hearing children; the children with implants appeared to apply phonics skills less effectively. The findings open pathways to distinguishing which underlying skills can best be targeted to facilitate acquisition of literacy skills in this population.

PhD student Emma Schimke (UQ) has continued her research analysing how different forms of word learning are affected by sleep versus wakefulness in healthy young adults – work that featured on Brisbane’s Channel 9 News. The young adult data will now be compared to a cohort of healthy older adults to explore the additional influence of age.

CI Angwin (with colleagues Copland, Wilson, Arnott and Barry) also continued studies of the impact of auditory white noise on language processing and learning. A key finding has been that white noise can facilitate language learning in healthy adults; current analyses of EEG data explore the neurophysiological impact of white noise on such processes.

Across languages and language varieties

The production and perception of indigenous Australian languages has again played a large role in the Processing team’s work. At Melbourne University, PhD student Katie Jepson completed her thesis on the prosodic and phonetic structure of Djambarrpuyŋu, discovering interesting divergence from the prosodic patterns typical in surrounding languages.

CI Janet Fletcher initiated a prosodic analysis of the extensive corpus of production data for Murrinhpatha (see the 2018 Annual Report) collected by CI Rachel Nordlinger (UM) with AI Evan Kidd (ANU). Murrinhpatha being a language where the spoken form of lexical items is context-dependent, interesting perceptual issues also arise. The Nordlinger and Kidd production work is now being followed up with a perceptual study of spoken-language recognition in collaboration with CI Anne Cutler and Postdoc Laurence Bruggeman (both WSU). In their research, listeners hear spoken descriptions matching one of two pictured scenes and their eye movements are tracked as they choose the matching scene. This technique can reveal differences in relative processing order and speed for different spoken utterances.

The processing of Australian English is also a continuing topic; Postdoc Debbie Loakes (UM) has continued her work on describing both Aboriginal English (most recently voice quality in this variety) and variation across Australian English varieties. The Melbourne team’s research on Pacific languages also continued, with CI Fletcher completing the analysis of prosodic focus marking in
a large production study of the Oceanic language Nafsan, and former PhD student Rosey Billington, now a CoEDL Postdoc, launching analyses of Nafsan phonetics and phonology. In collaboration with CIs Fletcher and Thieberger, these will later be extended to other languages of Central Vanuatu. Experiments on Nafsan (see Annual Report 2018) were extended to Lelepa during 2019, allowing direct comparisons of prosodic structures across the area’s languages. The combined results suggest, in line with the team’s earlier proposals (Annual Report 2017), that neither Nafsan nor Drehu should be classified as stress languages.

Fieldwork supported by a grant from the Endangered Languages Documentation Programme was also undertaken by postdoc Billington for another closely-related language, Eton. In collaboration with Postdoc James Grama (ANU) and supported by a CoEDL Language Documentation Grant, she also conducted a pilot project on phonetic and phonological variation in Bislama, a creole and lingua franca of Vanuatu.

CI Fletcher also continued to work on the corpus of French Polynesian languages including analysis of segmental timing and stress in Tahitian. PhD student Catalina Torres Orjuela completed a fieldtrip to Lifou to record Drehu-French bilinguals, and is examining both Drehu and French prosody, detailing potential evidence of contact on phrasal prosody. With support from the French Trust, she also visited the University of Aix-Marseille to conduct a speech perception study examining whether phrasing distinctions in Lifou French are processed identically by European French listeners.

Research on previously little-studied languages can reveal startling processing contrasts compared to some more widely studied languages. But even closely related languages with very similar phonology can differ in the processing they demand of listeners. Jenny Yu’s WSU PhD research has shown this for English and German prosody – in cues to syntactic structure (see Annual Report 2017), in the fine detail of pitch contours (Annual Report 2018), and now in how listeners use lexical stress in recognising words. German listeners correctly assigned single-syllable fragments (e.g., Kon-) to one of two words differing in stress (KONto, konZEPT), and even performed above chance in an English version (with, e.g., mu- from MUsic, muSEum). To do this they must have used the prosodic cues in kon-, mu-, etc.

In contrast, English listeners to English overlooked such cues. The explanation lies in vocabulary patterns: German has more such words with unreduced unstressed syllables (kon-, di-) than English does. Thus, English listeners may never need to learn to use prosody in identifying words, while German listeners do use it, and not only in their first but also in a second language.
Psycholinguistics in the cloud rainforest of PNG

In June, Centre researchers Hannah Sarvasy and Alba Tuninetti arrived in the Saruwaged Mountains of PNG carrying two mobile electroencephalograph headsets (EEG) and an eye-tracker. The pair and their collaborators at the MARCS Institute (WSU) have broken new ground in using cutting-edge technology, on-site in a remote community, to further psycholinguistic research on an indigenous language (Nungon). “We were able to integrate purely lab-based psycholinguistic approaches with the description and documentation of a remote language community,” said Hannah. “We hope that combining forces will help answer questions about the universality or generalisability of cognitive mechanisms to under-studied language groups.”

The idea for the psycholinguistic experiments first arose when Hannah met fellow Centre Post-docs Alba Tuninetti and Karen Mulak at CoEDLFest 2016. Three of the four experiments focused on the switch-reference markers that appear in the very long sentences – called clause chains – which are a central feature of Nungon, as well as on ethnic bias and word learning. In one, participants were played correct and ungrammatical sentences while hooked up to Alba’s EEG. “We’re looking to see whether the brainwaves show a predicted ‘surprised’ response, to help us see the relationship between the switch marker and what we think it is doing grammatically,” Hannah explained. For another, Hannah and PhD student Jenny Yu designed a mobile eye-tracking experiment to investigate people’s eye movements while listening to and producing clause chains.

Beyond the exciting new datasets, Hannah is keen to emphasise the key enabling role of the local community and the importance of building long-term relationships. The researchers marvelled at the speed and ease with which participants were processed for the experiments. “All the researchers were overjoyed with the number of participants they got for their projects,” Hannah said. “The community planned for months to ensure that we had a smooth and productive field trip, and local young people praised the opportunities they got assisting with the research.”
The Evolution program began the year with an important workshop on ‘Revisiting the evolution of kinship’. This interdisciplinary gathering brought together international experts in order to examine the evolution of kinship systems from the pre-human through the early human to attested human societies. Convened by program leader Kim Sterelny, CI Nick Evans and PI Stephen Levinson, it canvassed new insights into the evolution of kinship and kinship systems, examining them as a prime examples of human cognitive technology.

It was rare to be able to triangulate between all the disciplines represented at the workshop, and human kinship systems are a rich source of interdisciplinary exploration: they are abstract, recursive and systematic. Taken together, these papers help us understand the remarkable differences (and some similarities) between human social organisation and the social organisation of our nearest relatives. The core set will appear in a special issue of *Biological Theory*.

The emergence of language

In 2019, the main research focus of CI Kim Sterelny and Postdoc Ronald Planer was to complete a monograph on the evolutionary foundations of language in deep time, entitled *From Signs to Symbols*. Their aim was to explain the evolution of the individual cognitive capacities on which language depends, and the social environment in which language flourishes, and to which language contributes.
Like a number of others, the authors think the emergence of language is much easier to understand on the assumption that the initial expansion of human communication was through gesture rather than through vocalisation; for gesture has the advantages, though also the limits, of iconicity. Moreover, great apes (and so, probably, our remote ancestors) use gesture with much more flexibility than they do vocal communication.

With respect to individual cognition, the main idea was to show how the key cognitive capacities required for language could evolve through piggy-backing on the evolution of the capacities needed to make and use the complex and challenging technologies archaeology shows in our record. These stretch back to about 1.7 million years ago, with the evolution of Homo erectus, the invention of the Acheulian toolkit, and the establishment of a challenging lifeway involving large game hunting. The cognitive capacities, the evolution of which was mediated through the establishment of this lifeway, included: the ability to coin new signs; the ability to understand signs whose targets in the world are not in the here-and-now; the ability to learn socially extended, complex, error-intolerant sequences; and the ability to combine signs to form new signs.

Language use (for the most part) is a form of cooperation: sharing information is as cooperative as any form of sharing, so one aspect of this project is to show how cooperative social life established. One reason why the great apes have no language is that they do not cooperate much: they are rugged individualists and we are not. So the monograph shows how, as human cooperation both became more elaborate and more essential to daily life, the demands cooperation made on our capacity to communicate increased. For one, as cooperation came to require both coordination and future planning, our earlier ancestors had to find ways of organising teamwork and indicating their future intentions.
But while cooperation can be immensely productive, it is also risky: others can let you down, either through incompetence, impulsiveness, or cheating. And so our ancestors had to find social tools to deter such failures, and to warn one another about who could be trusted, and who would let you down. Sterelny and Planer argue that by about 100,000 years ago (and perhaps earlier), archaeology reveals a social and economic life with complexity that would require the support of language, or something very close to language. So in their view, it was something like a two-million-year journey from early humans who could communicate, mostly by gesture, and rather better than great apes – to our ancestors who had just about our abilities to talk and understand one another.

On a separate but related research track, Ron Planer began working with Masters student Lauren Reed on two articles which bring to bear contemporary work in sign linguistics on questions about the evolutionary origins of language. This work dovetails with Planer and Sterelny’s interest in a gestural origins theory of human language.

The scale of language diversification

Grambank, a global database of grammatical information from the world’s languages supported by CoEDL, grew to contain grammatical data for more than 1,800 languages at the end of 2019, and the aim is to reach 4,500: the number of languages for which there is at least a grammar sketch.

An exciting study testing the many hypotheses attempting to explain global language diversity was published in *Nature Communications*. Al Simon Greenhill, Affiliates Xia Hua and Lindell Bromham (and colleagues) concluded that a region’s climate has a greater impact than landscape on how many languages are spoken there. The team mapped language diversity around the world and found areas with more productive climates tend to have more languages. Despite popular belief, climatic factors have a stronger effect than landscape factors (like how mountainous the terrain is, or how many rivers there are) when it comes to language diversity. The researchers also believe this could have a lot to do with food production – another driver of language diversity – and that language diversity and biodiversity might both be affected by similar factors.

Results of investigations into the phylogenetic history of different language families continue to be published, shedding light on the origins and dispersals of diverse peoples. These include a paper investigating the homeland of the Sino-Tibetan language family, revealing the origins, homeland and dispersal of these languages, published in the *Proceedings of the National Academy of Sciences* of the USA. Based on a phylogenetic study of 50 ancient and modern Sino-Tibetan languages, the scholars concluded that the Sino-Tibetan languages originated among millet farmers, located in North China, around 7,200 years ago.

To aid this kind of quantitative study, a team of scholars from the Centre’s partner, the Max Planck Institute for the Science of Human History, published a new version of the Database of Cross-Linguistic Colexifications (CLICS), covering lexical associations in
more than 3,100 languages varieties. Every language has cases in which two or more concepts are expressed by the same word, such as the English word ‘fly’, which refers to both the act of flying and to the insect. By comparing patterns in these cases, researchers can gain insights into a wide range of issues, including human perception, language evolution, and language contact. The new version of the database offers lexical data on an unprecedented scale and provides a detailed, reproducible workflow for data aggregation, allowing scholars from all over the world to contribute to future versions.

A study drawing on CLICS data on emotion semantics, co-authored by PI Russell Gray and Al Simon Greenhill, was published in the premier journal Science. Words for emotions like ‘anger’ and ‘fear’ vary in meaning across language families. By comparing 2,474 spoken languages, the researchers found variation in emotion conceptualisation and evidence of a universal structure in colexification networks, that is patterns in the use of a single word for two concepts. The researchers constructed networks of colexified emotion concepts and compared them across languages and language families. These networks varied significantly, suggesting that emotion words may vary in meaning across languages, even if they are often equated in translation dictionaries. In Austronesian languages, for example, ‘surprise’ is closely associated with ‘fear’, whereas Tai-Kadai languages associate ‘surprise’ with the concepts ‘hope’ and ‘want’.

The Wellsprings of Linguistic Diversity, an ARC Laureate project of Centre Director Nicholas Evans, formally came to an end in 2019, though its research will take many more years to come to full fruition. A two-day symposium at the end of June presented highlights of the project’s findings.

In 2019, the first PhD degree from the ANU-based Wellsprings cohort, by Eri Kashima, was submitted on sociolinguistic variation in Southern New Guinea. Kashima conducted an investigation of the under-described Papuan language Nmbo and has already taken up a postdoc at the University of Helsinki. In related news, Postdoc Luis Miguel Rojas-Berscia, who took his PhD on a coordinated topic at the Max Planck Institute for Psycholinguistics in Nijmegen, won the 2019 AVT/Anéla prize for the best PhD in linguistics in the Netherlands. Wellsprings Postdocs Mark Ellison and Dineke Schokkin have also been selected for new appointments: at Universität zu Köln as Senior Research Fellow at Collaborative Research Centre for Prominence in Language, and at the University of Canterbury in Christchurch, respectively.

Among the numerous Wellsprings publications during the year, highlights include three books: Dineke Schokkin’s A Grammar of Paluai; the 3rd edition of Miriam Meyerhoff’s Introducing Sociolinguistics; and Nick Evans’ online Nen Dictionary.

Ruth Singer published on the importance of taking politics into account in discussing language endangerment and impact of national standardised literacy and numeracy testing on children and teaching staff in remote Australian Indigenous communities. Nick Evans included substantial material from the Wellsprings project in his Einar Haugen Lecture in Oslo in September, at the Research Centre for Multilingualism Across the Lifespan, (available on the
Centre’s website). Another highlight was PhD student Alexandra Marley winning the prize for the best paper at the annual Australian Linguistics Society conference in December.

**Language evolution at the community level**

The Sydney Speaks project continued to probe language change at the community level by conducting comparisons of actual language use recorded at different time periods, with Australians of varying ages, social classes and ethnic backgrounds. The project is in an ideal (and somewhat unique) position to address this, having access to comparable recordings of native Australian English speakers of Anglo, Italian and Greek background from the 1970s and 2010s.

Analyses conducted during 2019 indicate that some of the ethnic differences that existed in the 1970s are diminished today, suggesting that so-called ‘ethnolectal’ varieties (ways of speaking by native speakers of English that express ties to an ethnic background) might be more prevalent for newer migrant groups. For the 2010s, researchers also included native Australian English speakers of Chinese background, and found that this group appears to be quite class aware, favouring features that are, or were, associated with more middle class Australians, including a move away from ‘broad’ vowel realisations that traditionally were associated with working class males and word final (er). These questions are being addressed further by new PhD student from China, Qiao Gan. Using measures related to occupation and education, they found that this groups sits within Australia’s middle class, and their language use may be a way of affirming their place in society. Language use is thus both impacted by, and a reflection of, the social framework that speakers belong to, and may change over time in accordance with wider social changes.

At the end of 2019, the Sydney Speaks project bid farewell to Postdocs James Grama, who takes up a position as Research Fellow at the Universität Duisburg-Essen (Germany), and Simón Gonzalez, who remains at the ANU pursuing other projects.
New Generation Documentation and Archiving Thread

The purpose of the New Generation Documentation and Archiving Thread is to ensure that all material created by research participants (including primary recordings, transcripts, experimental results, dictionaries, and so on) could be managed and archived. This supports the citation of primary material, essential for verifying claims made by researchers, but also makes the materials available to the speakers who were recorded.

CoEDL takes the need to create records that will be available in the long term very seriously. All CoEDL researchers have been trained and provided with guidelines for creating records in the course of their research, and then how to deposit those records, with a form that specifies how they can be used. The archive we use is the Pacific and Regional Archive for Digital Sources in Endangered Cultures (PARADISEC). Largely as a result of CoEDL’s work, the contents of PARADISEC grew from 52.8 terabytes to 77 terabytes during 2019. At the end of 2018 it held 9,328 hours of audio and 251,578 files; it now has 11,628 hours of audio and 289,010 files, representing 1,233 languages.

In 2019 we worked on two projects funded by the Endangered Language Documentation Programme’s (ELDP) Legacy Materials Grants. These were to work on 180 tapes from the Divine Word University in Madang (PNG); and with more than 300 tapes made in To’aba’ita (Solomon Islands) by Ian Frazer since the early 1970s. We have been working with several collections to ensure they are digitised, described and archived, including Edith Bavin’s Warlpiri language recordings and Debra McDougall’s Ghannonga language recordings (made on Ranongga Island of the Solomon Islands, with help from the Endangered Archives Programme of The British Library). We continue to digitise collections of recordings for which there is no funding available, recognising the value of the content and the need to copy them before the media becomes unplayable.

In 2019, PARADISEC received the Core Trust Seal and will now be eligible for approval from the World Data System of the International Science Council certifying that all processes used by PARADISEC conform to necessary standards.

During this International Year of Indigenous Languages, PARADISEC reached into the collections and produced several podcasts with people reflecting on the recordings they found in their own languages (Toksave). It also produced a Soundscape that plays 20 second snippets from 190 items in the collection, displayed on a map. Earlier in the year, it put audio online for items for which there is little description, inviting listeners to identify the Mystery Language of the Week (for more details, see the Outreach chapter). We continued working with The British Library to bring digitised wax cylinder recordings back to source communities in Melanesia and the Torres Strait islands.
Some of the notable collections added this year include: A survey of languages spoken on Maewo (Vanuatu); Interviews about Wanji-wanji Aboriginal travelling songs; Recordings of Lifou French and Drehu (New Caledonia); Timaus Recordings (Indonesia); Kala Kawaw Ya - Linguistics field methods 2018 (Australia); Recordings of Paluai (PNG); Mantuto survey (Timor Leste); Pondi (aka Langam) language recordings (PNG); Eric Conte’s collection of 52 recordings of Polynesian oral tradition (French Polynesia). (For more highlights, see the box on pg 99.)

We are participating in a collaborative project to build a collection description tool called Lameta (with the ELDP in London and the University of Hawai’i’s Department of Linguistics) to be launched in early 2020. It will be a way to describe files so that they can then be sent to an archive with their metadata as built on the researcher’s laptop, either in the field, or shortly after fieldwork.

To spread the word on best practice archiving methods, we gave talks and ran workshops throughout the year, including at the National Library of Australia’s conference, ‘Language Keepers: Preserving the Indigenous Languages of the Pacific’. Other presentations included at the International Conference on Language Documentation and Conservation and the 3rd Workshop on Computational Methods for Endangered Languages (both in Hawai’i); a week-long workshop in Honiara (Solomon Islands); invited presentations about PARADISEC and workshops on Elan and FLEx in Kolkata and Guwahati (India); and a workshop in Papeete (French Polynesia) to which we also brought Akevai Nicholas, a Cook Islands Maori linguist. The work in French Polynesia includes several local language academies and aims to build a local archive there.

**Corpus development**

It was a big year for the CoEDL corpus project. The size of the collection increased tenfold over the 12 months, now containing 29 corpora from 27 under-represented languages. We have over 2.7 million words from 4,664 files in the collection, with the biggest corpus being of the Bislama language – with 1,359,124 words. The collection can be seen, used and referenced online in an ANNIS corpus visualization framework at http://www.corpus.dynamicsoflanguage.edu.au.

We also set up a growing website where language community members can listen to stories from our collection in their language, making the data accessible to the people who produced it. These attractive ‘corpus gateway pages’ for each of our corpora aid in accessibility and navigation for the user, and help community members to easily locate important linguistic materials. (Available at www.gerlingo.com)

Additional corpus-related achievements include:

- A new Burarra corpus containing 36 hours of recordings of language and clan biographies, traditional stories, conversation, stimulus activities and elicitation in three Burarra dialects, which are housed in the Endangered Language Archive and deposited by Centre alumna Jill Vaughan.
• Inge Kral, Elizabeth Marrkilyi Ellis and Jennifer Green deposited a large curated corpus of Ngaanyatjarra verbal arts in PARADISEC – the most extensive collection of verbal arts for any Australian Indigenous language.

• Nick Evans and Dalabon speaker Manuel Pamkal have been working on extending the Dalabon corpus, and in February (among other things) nearly completed the transcription of a recording made in 1969 of a Dalabon speaker probably born around 1915 – the earliest-born Dalabon speaker for whom we have a recording. Until this field trip no living Dalabon person had been able to make sense of the very rapid and esoteric speech in this recording.

• CoEDL and PARADISEC participated in the True Echoes project of The British Library, bringing digital versions of wax cylinder recordings back to Melanesian countries and Torres Strait Island communities. These recordings, originally made by British anthropologists during pioneering research in the region in the late nineteenth and early twentieth centuries, mark the inaugural use of sound in anthropological research and are included in the UNESCO Memory of the World register in recognition of their unique cultural heritage status. We ran a workshop in Sydney in November 2019 with representatives from regional cultural centres and will continue to work on this over the next two years.
New collections in 2019

The following is a selection of collections completed in the PARADISEC archive in 2019:

- **Amos Teo (ABT3)**, Recordings for a study of Transitivity in Sümi (India), including picture and video descriptions, pear stories, and interviews. (60 items, 178 files)

- **Dineke Schokkin (DS1)**, Recordings of Paluai (PNG). Material collected from 2010-2015. (96 items, 470 files)

- **Ian Frazer (IF01)**, From 1971 to 1985, Ian Frazer conducted fieldwork in North Malaita, Solomon Islands, mainly on To’ab’a’ita but with neighbouring groups as well (Lau, Baelelea, Pijin). Approximately 280 tapes (cassettes and open reels) have been inventoried, photographed, digitised and archived and 92 notebooks have been imaged and archived using an ELDP Legacy Collections Grant (375 items, 17,516 files).

- **Thomas Ennever and Iveth Rodriguez (IRTE1)**, Survey of languages spoken on Maewo (Vanuatu) in 2018. The collection contains Austronesian Basic Vocabulary Database wordlist of 215 terms, kinship surveys and ethnographic interviews. Languages include: Baetora, Hano, Marino, Mwerlap, Maewo, West Ambae and East Ambae. (146 items, 416 files).

- **Nick Evans: (LSNG01)**, Audio and video recordings of Ndre (PNG) of the last speaker of this Yam family language, collected in 2013 and 2014, including three songs. (9 items, 187 files); **(LSNG03)**, Recordings of Lä (PNG) collected in the village of Tais in 2013. There are only a handful of speakers of this language remaining. (5 items, 10 files); **(LSNG05)**, Recordings of När (PNG) collected in the village of Tais in 2013, which only has a few speakers of the language remaining, including the SNG word list and 5 videos. (22 items, 44 files).

- **Owen Edwards: (OE3)**, Recordings of Timaus, a variety of Meto (Indonesia). (19 items, 63 files); **(OE6)**, Recordings of the Kusa Manea variety of Meto. (16 items, 40 files).

- **Virginia Dawson (VD1)**, Additional survey materials collected on languages from the northern part of Manatuto district and surrounds, Timor-Leste. (25 items, 537 files)

- **Wellsprings of Linguistic Diversity Project: Cootamundra (WSCT)**, Sociolinguistic interviews conducted in Cootamundra (NSW) (17 items, 232 files).
The Transcription Acceleration Project (TAP) has continued its focus on a range of approaches to reduce the time it takes to transcribe speech data, one of the most time-consuming tasks in language documentation. This cross-disciplinary project is coordinated by TAP Project Manager Ben Foley. Ben also enrolled in a PhD at the University of Queensland to evaluate the usability and usefulness of specific language technologies.

Over the year, TAP continued the development of the Endangered Language Pipeline and Inference System (ELPIS) under the mentorship of Daan van Esch, Senior Technical Program Manager at Google and a member of CoEDL’s Advisory Committee. ELPIS is a technology which aims to enable language documentation workers with minimal computational experience to build their own speech recognition models. The goal is not full automation of speech recognition, but rather to make a practical and effective workflow that integrates machine learning technologies provided by the Kaldi open source speech recognition toolkit.

In 2019, efforts included ongoing development of the ELPIS transcription interface, improving code quality, code testing, and making a framework to support multiple data import and export formats. Software engineering student Nicholas Buckeridge was awarded the UQ School of ITEE’s Innovation Showcase Best Software Project for this work.

TAP partnered with Boeing software engineers to minimise the size of the ELPIS software by meticulously digging deep in the speech recognition toolkit’s code.

The team used a combination of manual and automated methods to identify the minimum set of scripts required from the Kaldi toolkit. This industry collaboration project aims to make the software smaller and easier to distribute, a prerequisite to porting the software to handheld devices such as smartphones and tablets.

ELPIS has been promoted to linguists and language workers nationally and internationally through a series of workshops including:

- the inaugural demonstration of ELPIS at the 2019 CoEDLFest in Sydney
- presentation at ComputEL (a workshop on the use of computational methods in the study of endangered languages)
- workshops at the 6th International Conference on Language Documentation & Conservation (ICLDC 6) at the University of Hawaii
- the Bana Guyurru Queensland Aboriginal and Torres Strait Islander Languages Forum in Cairns
- the Linguistic Society of America Summer Linguistic Institute at the University of California Davis (California)
- the PULiiMA Indigenous Language and Technology conference in Darwin
- a workshop with the linguistics department at the University of Texas at Austin
- the Conference of the International Speech Communication Association Interspeech 2019 in Graz, Austria, and
- the CoEDL Summer School in Melbourne.
The wide exposure to the ELPIS interface design has inspired similar accessibility improvements for other language technologies, including the development of a code template for other Natural Language Processing tools using the same project architecture. Notably, this includes an interface for the Persephone phonemic transcription tool developed by Oliver Adams in his PhD research at the University of Melbourne (now a Postdoctoral Fellow at Johns Hopkins University). In a burst of activity late in the year, Oliver began adapting Persephone to use the ELPIS interface, to prepare data appropriately for Persephone and then train a Persephone model. This work will continue to fine-tune the interface specifically for the ways that people want to work with Persephone.

In other projects, the Centre continued research into forced alignment for under-described languages, that is, automated conversion of orthographic transcriptions time-aligned at the utterance level to transcriptions time-aligned at the level of individual phonemes. Work by the Sydney Speaks team, led by Simón Gonzalez and collaborating with CoEDL researchers, extended the use of the Montreal Forced-Aligner to ten languages.

**OPAL**

The social technologies projects have continued research into designing and building social robots for studying child-robot interaction, supporting different types of verbal and nonverbal interaction, storytelling and language practice.

In the School of Information Technology and Electrical Engineering (ITEE) at UQ, work has continued with interdisciplinary teams working on a range of social technologies: the Opal project focuses on developing a social robot (Opie) with verbal and non-verbal abilities required to support conversations with young children; and the Florence project (in collaboration with the UQ School of Health and Rehabilitation Sciences) is working on an assistive device for people living with dementia and their carers. The social technologies projects led from ITEE draw on interdisciplinary teams, with computer scientists and engineers collaborating with interaction designers and roboticists, developmental psychologists, speech pathologists and occupational therapists.

The Opal Social Robotics team completed data collection for studies of how children interact with story-telling robots, conducted at the Brisbane Science Centre (several papers under review); and published a seminal paper on the uses of robots as embodied chatbots for surveys in health fields. Ongoing work with Pama Language Centre (Cape York, QLD) began testing home-based social robots for language practice for Mpakwithi, and began development of a game based app for language practice for Guugu Yimithir. New HDR
students have begun to explore multimodality for robots, story-telling using virtual and augmented reality, and speech to text systems for Indigenous languages.

The work in the OPAL project primarily requires personnel, and the centre has supported a large cohort of postdocs and PhD students, many working on interdisciplinary projects. A cohort of undergraduate students has also gained research experience working on a range of technology sub-projects as part of the winter and summer scholars program.

A new initiative between CoEDL and the UQ Graduate School has resulted in recruitment of a cohort of higher degree research students to work on language technologies. Scholarships for the cohort were advertised late in 2018 and three PhD students and one MPhil student started in 2019 (Ben Foley, Alina Ajayan, Enrique Klein, and Carlos Ramirez). These students bring a wealth of practical experience to their research and all work in interdisciplinary areas, with supervision from across UQ and from industry and community organisations. Three additional HDR students will join the cohort in 2020.

**Animettes: Digital puppets for embodied storytelling**

A new direction for the Opie project involved a collaboration with STEM researchers, adding language capabilities to electronic puppets. Children design and build their own electronic puppets, and then can program them using the popular language, Scratch, including recording their own voices to create messages for the puppets to say.

This project has been developed by Sarah Matthews in collaboration with Janet Wiles, and explores the intersections between storytelling and technology, and how seemingly simple cut forms can be used as a material to elicit storytelling and exploration of open-ended tangible technology for creation.

Developing storylines and characters with an Animette crocodile that snaps its teeth; and a Grade 4 child fitting a microcontroller to an Animette puppet she has designed. Photos by Sarah Matthews.
NEW TECHNOLOGIES THREAD

Florence

The Florence project team continued exploration of perspectives on technology and communication working with their expert reference group of people living with dementia and their caregivers. Members of the Florence team published a revised framework for coding conversational trouble and repair in people with dementia (in the *Journal of Communication Disorders*), providing a foundation for better understanding the capacity of technology to identify different sources of conversational trouble. The team has applied both the CALPY computational speech and language processing toolkit as well as Scaled Shannon Entropy to the analysis of monologue speech samples in people with dementia, demonstrating the capacity of both analyses to distinguish between the speech of healthy adults and people with dementia. The work is also providing insights into variability in conversational structure.

Andrew Back from the Florence project was awarded a 3-year Trusted Autonomous Systems (TAS) DCRC Advanced Queensland Mid-Career Fellowship for a project developing his novel approach to entropy-based AI.

Other projects

CIs Anthony Angwin and Paola Escudero commenced a project utilising EEG to explore the neurophysiological mechanisms that underpin cross-situational word learning across age and modality. Data collection for this project commenced in 2019, with expected completion in 2020.

Further gains in EEG research were made in Brisbane where CoEDL affiliate Kartik Iyer, together with David Copland and CoEDL CI Angwin, successfully applied a unique measure of brain connectivity – dynamic causal modelling – to show that cortical responses during language
processing in people with aphasia post-stroke were predictive of subsequent treatment-related improvements in language function. A new collaboration between Kartik Iyer, CIs Angwin and Escudero and Dr Rebecca Armstrong from UQ will apply a similar technique to explore the relationship between brain connectivity, semantic processing and word learning in children with Developmental Language Disorder (research to commence in 2020).

In August 2019, Samuel Armstrong commenced a PhD at UQ aiming to develop an EEG-based brain computer interface that can predict language learning success and naming errors. This research builds on pilot work previously conducted by CIs Angwin and Escudero in 2018, and will be expanded to include people with aphasia post-stroke.

CI Angwin and colleagues Copland, Wilson, Arnott and Barry also continued their recent work examining the impact of auditory white noise on language processing and learning. A key finding of this work has been that white noise has the capacity to facilitate language learning in healthy adults, and current analysis of EEG data is underway to explore the neurophysiological impact of white noise on such processes. In 2020, the team will commence functional neuroimaging work (using fMRI scanning) to further explore the neurocognitive mechanisms underpinning this phenomenon.
Interdisciplinary Grant Funding

Transdisciplinary and Innovation Grants

Transdisciplinary and Innovation Grants are to provide opportunities for cross-program collaboration at all levels, and to support projects by CoEDL members and Affiliates that are innovative and that will link research across programs and threads in new and unexpected ways, leading to the development of collaborative research outputs of a high quality. A total of $51,548.80 was awarded under this program in 2019.

Indian English in the diaspora: A study investigating linguistic modification among new migrants in Australia and the UK

Olga Maxwell, University of Melbourne & Elinor Payne, University of Oxford

English is notable for its extensive dialectal variation across very diverse speech communities globally. This study examines Indian English spoken in two diverse diaspora locations, Melbourne, Australia and Oxford, the UK, both with large diaspora communities. Indian English is of interest because of the extensive number of its speakers around the world as well as the documented presence of a distinct set of pronunciation features making it undoubtedly ‘Indian’. We investigate how recently-arrived speakers of Indian English adapt to two diverse linguistic contexts, which phonetic features they retain signalling their ‘Indian identity’, and which features of the local dialect they adopt.

Towards an extensible, open-sourced picture dictionary template and processing system

Nay San, Stanford University

While smartphones have made it trivial to deliver media-enriched text data, the time and labour required for producing well-curated language, audio, and graphics can still be highly cost-prohibitive. Further, even once the language and multimedia data are collected, there remain significant time and personnel costs to process, assemble, and present these data within a mobile-friendly format. Through the digital transformation of two print picture dictionaries and open-sourcing the data entry template, illustrations, and the data processing pipeline, this project will alleviate a significant number of these costs, facilitating the production of digital picture dictionaries for languages across Australia and beyond.

CDigital IDS

Nicole Traynor, Western Sydney University/MARCs Institute

As more people work longer hours in jobs away from home, they turn to using methods of digital communication (e.g., Facetime, Skype) to stay connected with their loved ones. But what impact does that have on communication? Specifically, does a mother’s speech to her baby differ when she uses digital communication compared to face-to-face communication? This project will investigate how digital communication affects infant-directed speech across the first year of life.
Language Documentation Grants

Since 2016, the Language Documentation Grants scheme have allowed for broader support of language research and preservation. The projects below were successful. A total of $45,213.06 was awarded under this program in 2019.

**Documenting phonetic and phonological variation in Bislama**  
*Rosey Billington, University of Melbourne*

Bislama is a creole language which is a lingua franca in Vanuatu, a country of over 130 languages. While Bislama vocabulary mostly originates from English, the grammar and the sound system are more like that of local Oceanic languages. However, it has long been observed that there is considerable variation in the speech sounds used in Bislama, with the linguistic heritage of speakers being an important factor. This project will develop a corpus of Bislama materials which will allow for a quantitative investigation of sociolinguistic variation in Bislama phonetic and phonological patterns, across a diverse group of speakers.

**Creating a corpus of Yolŋu commentaries on ancestral art**  
*Michael Christie, Charles Darwin University*

Twenty video recordings, some in rare and underdescribed Yolŋu languages have been made in conjunction with an exhibition at Charles Darwin University Art Gallery of 60 bark paintings which were collected at Milingimbi in the 1970s. This project will enable the recordings to be transcribed and translated for the benefit of the descendants of the artists, for students of Yolŋu languages and culture, and for the texts in seven Yolŋu languages to be made available for analysis and corpus work.

**Documenting Sydney Aboriginal English**  
*Sally Dixon, Friedrich Schiller University*

The study examines the structural ‘distinctness’ of Sydney Aboriginal English and uncovers how this is being maintained in one of the world’s most linguistically diverse, yet English-dominated, metropolises. By producing the first high-quality, mini-corpus of naturalistic Sydney Aboriginal English, this study will systematically investigate (1) the ways in which this variety differs from Standard Australian English, and (2) whether such differences constitute potential contact-induced changes in progress. These findings will be contextualised by a detailed ethnographic examination of language practices to produce a rich picture of the role of minority ethnolects in the modern metropolis.
Obstruents vs sonorants: Arabana apicals

Mark Harvey, University of Newcastle

This project aims to advance understanding of sound structures in Australian languages and more generally. It has long been recognized that sounds do not differ randomly from one another. Rather, groups of sounds behave together in systematic ways, but it is not clear precisely how sounds group together. Arabana has an unusual set of tongue-tip sounds. Their phonetic investigation allows us to evaluate different hypotheses on how sounds group together. The project will work with the last fluent speaker of Arabana to record and analyse new materials on tongue-tip sounds, providing better materials to both the Arabana and research communities.

A cross-linguistic investigation of the factors affecting ethnobiological knowledge transmission in Arnhem Land

Aung Si, Institute for Linguistics, University of Cologne

This project will investigate the factors affecting the state of a community’s knowledge of the natural environment, by systematically measuring key linguistic and non-linguistic variables in several languages of Arnhem Land. Using an interdisciplinary approach involving language documentation and ethnobiological techniques, this project will shed light on the complex interactions between language endangerment, knowledge transmission to younger generations and non-linguistic variables, such as the health of the local natural environment and access to traditional practices. The project will develop a framework for determining linguistic and ethnobiological vitality separately, allowing targeted interventions to safeguard either or both as necessary.

Message sticks: Documenting an Indigenous system of long-distance communication

Piers Kelly, University of Cologne; Max Planck Institute for the Science of Human History, Jena

Message sticks are Indigenous tools of long-distance communication. Carried by special messengers across cultural and linguistic boundaries, the objects were routinely used to support an important oral message, usually a request or declaration. Today, Indigenous communities employ message sticks in more restricted or politically symbolic contexts, however in Maningrida, traditional long-distance interactions are still remembered and reenacted. In collaboration with senior Rembarrnga men, this project documents knowledge about message stick use in Arnhem Land. In particular it probes the pragmatics of the system: the relationship between the oral message, the sequence of motifs and the context of the communicative encounter.
Ethics and Heritage

Much of the Centre’s research relates to Indigenous communities in Australia and the Asia-Pacific, and to the transmission and safeguarding of important cultural, linguistic and historical information. The Centre recognises the right of Indigenous communities to maintain, control, protect and develop their traditional knowledge and cultural expressions, and the inherent ownership they have over this intellectual property. The Centre also recognises that communities and individuals within the region hold different views as to what these rights entail.

We take very seriously our responsibility to create records of performances, be they narratives, songs, and other expressions of traditional languages. We will always assert the moral rights of performers in collections of material produced by the Centre. Through the activities of the Archiving and New Technologies Threads, the Centre dedicates significant resources to ensuring cultural data, recordings and other media are returned to the communities from which they originate in a timely and sensitive manner. In 2018, our focus on repatriation of recorded materials continued.

A detailed policy regarding the recognition and management of linguistic and cultural heritage in Australia was developed early in the life of CoEDL and was substantially reviewed in 2017. The policy operates to inform members and prospective grant applicants of their ethical and cultural obligations. Its various recommendations and guidelines remain under constant consideration in response to the practical needs of contemporary (and increasingly digitised) scholarship. In 2018, we added a new section to the policy to encourage co-authoring of publications, especially with Indigenous people whose input has been critical in the development of the content, and includes supporting sole-authored publications by Indigenous researchers. Several citations of noteworthy Centre publications were added as examples of good practice in this regard.

Research conducted by Centre staff and students at the collaborating institutions is subject to approval by institutional human research ethics committees. These statutory committees review and approve research involving Indigenous people with specific reference to Values and Ethics: Guidelines for Ethical Conduct in Aboriginal and Torres Strait Islander Health Research (NHMRC 2003), and The Australian Institute of Aboriginal and Torres Strait Islander Studies Guidelines for Ethical Research in Australian Indigenous Studies (AIATSIS 2012), plus The National Statement on Ethical Conduct in Human Research (NHMRC, ARC, UA 2007). In addition, the Centre recognises the important contribution of the guidelines developed by The Australia Council for the Arts on Indigenous Protocols for Producing Indigenous Australian Music, Writing, Visual Arts, Media Arts and Performing Arts (2007).
A father completes a new short-form checklist version of the Australian English Communicative Development Inventory, the OZI-SF, at the MARCS BabyLab, WSU. (See pg 79).
Section 4: Education, Training and Mentoring
In 2019 CoEDL continued our successful and varied education, training and mentoring program, from pan-regional initiatives such as the CoEDL Summer School, to cross-CoEDL initiatives such as CoEDLFest and specialised workshops, to the training that each node runs for its own HDR students, often making this available to students from other nodes.

PhD completions are increasing as the Centre enters the last phase of its life: in 2019, 21 postgraduate students completed their theses, and many have gone on to pursue interesting paths (see pg 150 for the abstracts of PhD graduates).

Conversely, a total of 16 new Honours, Masters and PhD students joined the Centre, ensuring a vibrant cohort and opening exciting, new directions in our PhD research. Eight new PhDs began at our UQ node, where a new crop of scholars is now involved developing speech and language technologies for under-resourced languages, machine learning, social robotics, app development, co-designing projects with Indigenous communities, and developing educational games for language learning.

We are also particularly proud of some other noteworthy achievements by our students:

- Anjilkurri Rhonda Radley gave an inspiring presentation at the University of Sydney to the year’s MILE (Master of Indigenous Languages Education) students on what it is like to do a research degree. Radley is a member of the Birpai community (NSW) who has been investigating the use of gesture in the Gathang language, herself a graduate of the MILE in 2019, and now a PhD student in CoEDL at the WSU node.
Anjilkurri Rhonda Radley explains the PhD journey to Sydney University students in the MILE program.

- Lauren Reed, whose Master’s thesis on the sign languages of the PNG Highlands earned her an ANU University Medal, was also awarded the 2019 Jalwang Scholarship from the Australian Linguistic Society, which she used to support the production of a picture dictionary of PNG Sign Language. Reed is now a PhD student in CoEDL at the ANU node. (See pg 76 for more information.)

- PhD student Ana Krajinović (UM), who submitted her thesis in 2019, won Best Student Paper at the 9th Language & Technology Conference in Poland for her paper on ‘Building capacity for community-led documentation in Erakor, Vanuatu’.

- PhD student Catalina Torres (UM) was awarded a scholarship from The University of Melbourne French Trust Fund to visit to the Laboratoire Parole et Langage in Aix en Provence, France, and work on a perception experiment with Pauline Welby.

- PhD student Alexandra Marley won the prize for the best paper at the annual Australian Linguistics Society conference in December.

- Several CoEDL honours graduates have been offered doctoral study positions overseas: Kirsten Culhane and Naomi Peck (ANU) are working with CoEDL alumna Uta Reinöhl at the University of Mainz; while Caroline Hendy (ANU) was awarded a Fulbright Postgraduate Scholarship to pursue higher degree research in the United States.

- PhD students have been engaged in outreach, an important part of their training. For example, PhD candidate Emma Browne (ANU) was sponsored by the Association for Language Testing and Assessment of Australia and New Zealand to collaborate with Warlpiri educators to facilitate two workshops on assessment of Warlpiri language at Yuendumu School, NT.

- PhD students are also engaged in teaching. A notable achievement was that of CDU-ANU PhD scholar Cathy Bow in collaboration with the Bininj Kunwok Regional Language Centre. They taught the first university-level course in Bininj Kunwok – through Charles Darwin University and ANU – an endangered Aboriginal language spoken by the Bininj people of West Arnhem Land in northern Australia.
Summer School

Our annual Summer School is a flagship educational event on Australia’s linguistics calendar. Over five days, we brought together leading national and international scholars to present the latest research in the field through 12 intensive courses across the multidisciplinary breadth of the science of languages. Summer School drew on expertise across the Centre’s programs, member universities and international partners to provide intensive training, enrich existing knowledge and catalyse new research collaborations. Participants ranged from advanced undergraduate students through to senior academics. Many of the courses required no previous knowledge or experience, only a burning curiosity about the dynamics of the world’s multifarious languages.

The 2019 Summer School was organised by and held at our University of Melbourne node. The diverse and exciting program included international speakers such as Bill Croft (University of New Mexico) with a masterclass on an evolutionary approach to describing language change and cultural transmission. It brought together historical linguistics, philosophy of science, sociolinguistics and evolutionary biology, as exemplified by Marianne Mithun (University of California at Santa Barbara) with a masterclass on ‘Morphological Complexity and Typology’ which discussed measuring morphological complexity through time and space.

We were fortunate to have two courses on languages presented by speakers/signers of those languages: Sally Akevai Nicholas (a native speaker of Cook Island Maori) came from New Zealand to give a course on...
Polynesian Languages; and Trevor Johnston (a native Auslan signer) gave a course on ‘Semiotic diversity in sign languages and spoken languages’. Sociolinguistics was well represented: James Walker taught ‘Studying Sociolinguistic Variation’ and Diana Eades presented ‘Socio- and applied linguistics: from scholar to expert in court’. In phonetics, CI Janet Fletcher joined with Postdocs Rosey Billington and Debbie Loakes to explore all aspects of prosody. At the coalface, special purpose research and field methods courses included those on doing psycholinguistics in the field by Postdoc Rebecca Defina, and on running online experiments in linguistics by AI Amy Perfors.

Venturing beyond traditional linguistics, Sally Treloyn and colleagues presented on ‘Digital Environments of Indigenous Song’. Students and researchers interested in Indigenous languages and community engagement benefited from the course ‘Making linguistics accessible to those who need it’ delivered by Living Languages and the Victorian Aboriginal Corporation for Languages. Following a successful model applied in the past, the entire third day was devoted to skills training, with short workshops on linguistic software tools R & R Studio, transcription acceleration for language documentation with ELPIS, and creating and maintaining speech databases with Emu.

To ensure that the benefits of the school reach out to language workers across Australia, we again awarded travel scholarships for non-CoEDL students to attend. In addition, UM provided $20,000 specifically to support Australian Indigenous attendees. Seven of the 11 recipients came from the Anangu Pitjantjatjara Yankunytjatjara Lands (SA) and Maningrida (NT). At a special lunchtime session, these Indigenous participants presented a ‘show and tell’ on the art, culture and languages of their communities. In addition to the Australian Indigenous participants, there was strong overseas attendance (13) from researchers working on languages in Southeast and South Asia, including a team of three from Vietnam, three from India and one from Myanmar. Their presence significantly increased the diversity of the Summer School, and feedback shows that their contribution to the courses they attended was much valued by the other participants.
### Summer School registrations

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<td>187</td>
<td>139</td>
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### Workshops and training sessions

Throughout the year, different Centre-based groups have organised workshops and training sessions. In March, CoEDL members attended a workshop in Canberra on using corpora run by the University of Lancaster and organised by the Institute of Health Communication. In April, the University of Melbourne organised a CoEDL corpus workshop. In June, the MARCS Institute at WSU provided a two-day intensive workshop on video editing. In August, the CoEDL Processing and Learning programs ran a joint workshop at the University of Melbourne (see pg 81).

Coming between the ICHL24 and LFG2019 international conferences (see Shape chapter) a Teach-in on using Lexical-Functional Grammar in diachronic linguistics was held to bring together historical linguistics and LFG. Around 30 attendees took advantage of the presence of international experts Professor Kersti Börjars (University of Manchester), Professor Nigel Vincent (University of Manchester) and Professor Louisa Sadler (University of Essex).

Also in July, another international training event was a workshop on ELPIS run by Google software engineers at the Linguistic Society of America’s Summer Linguistic Institute. The session was facilitated by CoEDL Advisory Committee member Daan van Esch, together with Craig Cornelius, Shayna Lurya, Evan Crew and Amanda Ritchart-Scott.

In September, CoEDL supported AIATSIS and the Resource Network for Linguistic Diversity (now Living Languages) at the inaugural Paper and Talk Workshop for Aboriginal Australians. The two-day workshop, involving Deputy Director Jane Simpson, Research Associate Doug Marmion and PhD student (and Ngiyampaa woman) Lesley Woods as partners, was covered extensively by ABC Canberra on radio, television and online.
Student mobility

Student mobility schemes allow CoEDL students to spend periods of time in other institutions (including but not limited to CoEDL nodes and partners) to learn new skills and interact with senior researchers in their field.

Domestic grants

Emma Browne (ANU) did a six-week placement at the University of Queensland to work with and seek advice from relevant experts at a key time in data analysis for her PhD research into how multilingual Warlpiri children and their teachers negotiate and use their linguistic repertoires in the bilingual classroom, visiting CI Felicity Meakins, AI Ilana Mushin and Affiliate Samantha Disbray.

International grants

Gloria Pino-Escobar (WSU) did a two-week placement visiting Affiliate Professor Marina Kalashnikova at the Basque Center on Cognition, Brain and Language (Spain), where the focus of research is closely connected to her research topic, especially in examining the interaction between language acquisition, processing and cognitive/executive functions.

Jenny Yu (WSU), whose thesis compares how English and German speakers use the melodic features of speech, did a four-week placement visiting Professor Bettina Braun at the University of Konstanz, one of the biggest speech and phonetic groups in Germany. She sought advice on how to annotate and best analyse speech production data in some of her experiments, and to help finish up the analyses of her production experiments.

Summer Scholars

At our WSU node the MARCS Institute, four Summer Interns worked on projects in the language sciences. Caitlin Konzen investigated the impact of regional accent variations on monolingual and
bilingual infants’ lexical processing. Mary Joukhador worked with CI Anne Cutler and Postdoc Laurence Bruggeman on the development of the English words to sentences production test.

Andrew Kramer worked with Affiliate Mark Antoniou on ‘Cracking the code of successful language learning’. And Hollie Hammond assisted CI Caroline Jones with interviewing parents in Western Sydney about their child’s first words using OZI-SF language inventory test.

The ANU node welcomed five Summer Scholars, thanks in part to sponsorship from the Australian Signals Directorate. Coming from Perth, Melbourne, Canberra and Sydney, these students worked on topics ranging from using semantic vector space modelling to study language change over time with CI Catherine Travis, to forensic linguistic work with Affiliates Yuko Kinoshita and Shunichi Ishihara, to preparing the existing annotated corpus of Idi for publication with Postdoc Dineke Schokkin, to experimenting with transcriptions in ELAN of a corpus of child language acquisition in an Aboriginal language (voice and video) with CI Jane Simpson and CoEDL alumna Samantha Disbray.

While the students had to leave Canberra early when smoke forced the shutdown of ANU, most were able to complete their summer scholar work on return to their homes.

**Mentoring scheme**

One way in which CoEDL supports the next generation of scholars is via a mentoring scheme whereby PhD students are mentored by ECRs, and ECRs are mentored by CIs. Each mentoring relationship is tailor-made to the needs of the mentee and the skills of the mentor. Mentoring may be on general topics, such as career progression or how to build up a strong CV; or it may be project-based, centred around a grant application, a specific research question, or certain methodologies and tools, for example. A call is sent out each year, to which between 10 and 20 people respond. As mentees continue contact with mentors over the years, this has created a rich network across the Centre, and has brought people from different program and different nodes together. Partners such as Appen and AIATSIS have also been involved as mentors.
Primary Carer Support Scheme

The Centre recognises that its staff and students may have primary carer responsibilities that limit their ability to attend out of town events contributing to the development of their careers. The scheme supports staff and students of the Centre with such responsibilities to attend conferences, workshops, fieldwork and the like.

Here’s what receiving a carer’s grant has meant to Melbourne-based Postdoc Debbie Loakes. In 2018, Debbie was elected as the Secretary of the Australian Speech Science and Technology Association at the Speech Science and Technology Conference. “Being a primary carer for young children, with a partner who does shift work, has meant I have had to be very selective about which conferences I can attend amongst my fieldwork obligations these last few years,” Debbie said. “It was a significant moment for my career as I am very interested in taking on leadership roles in the field, Debbie said. “If I was not able to be present for this, I am not sure if I would have been elected, so I am very grateful to CoEDL for the opportunity to use the grant to support my attendance.”

In 2019, Debbie obtained a grant to attend a major international sociophonetics workshop organised by CoEDL at ANU. “This was a very important event for me as I had to decline my keynote presentation at SocioPhonAus the previous year due to illness,” Debbie recalls. “I was able to become an ongoing member of what we are now calling the ‘Canberra Corpus Collective’, which consists of very senior and well-known people in the field, and some emerging scholars such as myself. We are now solving a ‘big’ problem together in the area of sound change and have submitted two papers to upcoming conferences.”
These are the many places throughout the world where CoEDL Alumni now work.
Join us for the launch of the

Mudburra to English Dictionary

ELLIOTT SCHOOL • 11.30 AM, 20 NOVEMBER 2019
SECTION FIVE

NATIONAL AND INTERNATIONAL LINKAGES
The year was one of grand international gatherings for the language sciences, and CoEDL took a leading role in their success.

**Major events**

The 18th International Congress of Phonetic Sciences (ICPhS2019) in Melbourne was held for the first time in the southern hemisphere. Almost 1,000 attendees took in 787 oral and poster presentations by authors from 63 different countries. (Notably, 276 of these were student papers.) As a sponsor and co-organiser, the contribution of CoEDL was substantial: About 30 Centre members gave oral or poster presentations at the conference; CI Paola Escudero was one of three Scientific Chairs; CI Janet Fletcher was an Area Chair for Speech Prosody; and six of the nine members of the Organising Committee are affiliated with our Centre, including Postdoc Rosey Billington.

Moreover, ICPhS2019 saw Director Nick Evans deliver a keynote address and two of our PhD students, Josh Clothier and Eleanor Lewis, were each granted one of only a few Student Awards from the hosting body, the International Phonetics Association, to attend. In addition, CoEDL co-sponsored and organised an ICPhS2019 Satellite Workshop on the Intonational Phonology of Typologically Rare or Understudied Languages.

Hosted by the Centre’s ANU node, the 24th biennial International Conference on Historical Linguistics (ICHL24) continued and expanded a proud tradition by presenting both renowned and exciting new voices in the many domains of the field, including methods and practices of reconstruction, formal approaches to change, historical sociolinguistics and contact linguistics. Immediately following, and also at the ANU, was the 24th International Lexical-Functional Grammar Conference (LFG2019), which welcomed work within the formal architecture of LFG as well as typological, formal, and computational work. (For more, see pg 68.)

Not just hosts, Centre members were in especially high demand on the international and domestic stages in the International Year of Indigenous Languages (IYIL2019):

- We had strong representation at the International Conference on Language Documentation & Conservation (ICLDC6)
in Hawaii, including by CIs Nick Thieberger and Gillian Wigglesworth, with several presentations involving Indigenous researchers: PhD student Susan Poetsch (ANU) joined with Annalee Pope from First Languages Australia (FLA) in presenting on Jarrak, a knowledge bank and timeline of contemporary language advocacy. New PhD Anjilkurri Radley (WSU) presented with Michael Jarrett from the Muurrbay Aboriginal Language and Culture Cooperative; and PhD student Mark Richards (WSU) co-presented with Josephine Lardy from the Jilkminggan community. Meanwhile, Transcription Acceleration Project (TAP) Manager Ben Foley teamed up with Nay San and CoEDL Advisory Committee member Daan van Esch to deliver two workshops with the ELPIS speech-to-text tool featuring the all-new user interface.

- Daan van Esch, a Senior Technical Program manager Google, was invited to deliver a keynote address at the International Conference on Language Technologies for All (LT4All) at UNESCO in Paris, where he spoke about ELPIS.

- Other invited international keynotes in 2019 included three by Nick Evans: in Lyon (France) at the world’s first conference on multilingualism in small-scale societies; at the 49th Poznan Linguistics Meeting (Poland); and the annual Einar Haugen Lecture at the Oslo-based Centre for Multilingualism in Society across the Lifespan. Meanwhile CI Janet Wiles spoke at the International Conference on Computer Supported Collaborative Learning, also in Lyon.

- In May, WSU CoEDL members and their MARCS colleagues were well represented at the Hanyang International Symposium on Phonetics and Cognitive Sciences of Language and associated workshop in South Korea (HISPhonCog 2019), with presentations by CI Anne Cutler and Affiliate Mark Antoniou, CI Paola Escudero, Kakeru Yazawa and Jessica Chin, and Affiliate Michael Tyler as invited speaker.

- In October, the long-standing connections between the linguistics programs in Cologne (Germany) and Australia (including CoEDL) were celebrated at a special event in honour of AI Professor Nikolaus Himmelmann at the Institut für Linguistik, where Nick Evans gave the principal address. Among those present whose careers have linked Cologne and CoEDL were CI Janet Fletcher, Postdoc Sonja Riesberg, and alumni Mark Ellison, Christian Döhler, Uta Reinöhl and Sonja Gipper. Another new German connection was established when Reinöhl, who spent two years at CoEDL/ANU as a Feodor-Lynen postdoc in 2015-17, received a prestigious Emmy Noether award to establish a six-year research project at Johannes-Gutenberg Universität Mainz, on the topic ‘Non-hierarchicality in grammar: Construction formation without word class distinction across categories and languages’. The continuing, two-way nature of this exchange is highlighted by two CoEDL/ANU graduates, Naomi Peck and Kirsten Culhane, having begun PhDs with Reinöhl in Mainz, while Mainz-based PhD Maria Vollner is spending time at CoEDL on exchange.
- Research links with Italy were also strengthened through a course taught by Nick Evans in September on ‘The grammar of others: social cognition and linguistic diversity’ at the Lake Como School of Advanced Studies; and another intensive course on Papuan languages taught at the Università degli Studi in Pavia.
- Back in Australia, Affiliate Hilary Smith chaired a session at the Australasian Aid Conference 2019 (ANU) which included her paper on Indigenous languages and wellbeing co-authored by Al Carmel O’Shannessy, Associate Inge Kral, PhD student Denise Angelo and CI Jane Simpson.
- Also at ANU, CoEDL members presented seven papers at the AUSTRALEX conference organised by the Australian National Dictionary Centre, including a keynote address by Al Jakelin Troy.
- UM-based CoEDL members and its Research Unit for Indigenous Language organised another successful Australian Languages Workshop at Camp Marysville (VIC), where most presenters were CoEDL members, including many students and Indigenous researchers.
- Hopper Down Under, an inaugural celebration of diversity in technology in the Asia-Pacific created by women technologists for women technologists, was held in Brisbane in July, and attracted a contingent of members from our UQ node, including CI Janet Wiles, Affiliate Susan Beeton and TAP engineer Alina Ajayan as presenters.

Work in communities and creating national networks

The Centre’s long-standing links with Indigenous organisations and language centres strengthened and expanded in IYIL2019 and involved collaborations with such disparate groups as Mallee District Aboriginal Services (VIC), Karungkarni Arts (NT), Winanga-Li Aboriginal Child and Family Centre (NSW) and Yuendumu School (NT). For example, our continuing relationship with the Ngukurr Language Centre saw a joint team with UQ node researchers present Opie robots at the Puliima National Indigenous Languages and Technology Conference in Darwin.

At the national level, CoEDL members worked with our partner the Australian Institute for Aboriginal and Torres Strait Islander Studies (AIATSIS) to complete the third National Indigenous Languages Report (NILR) for the Department of Communication and the Arts. Leading on from this, CoEDL members across several nodes began two working papers on Indigenous language and education across Australia, Canada and New Zealand for the Organisation for Economic Co-operation and Development (OECD). We also provided feedback into AIATSIS’ revision of its Guidelines for Ethical Research in Australian Indigenous Studies, which are used by many ethics committees and form a core point of reference for our own Indigenous Linguistics and Cultural Heritage Ethics Policy (see pg 111).
Nick Thieberger presents at ‘Understanding our languages: Solomon Islands’.

Work with peak bodies FLA and the Resource Network for Indigenous Languages (now Living Languages) also accelerated. CoEDL supported FLA with ‘Yaale: Tools for language’ (yaale.com.au), a project to collate and share information about the diverse tools that language workers find useful. Living Languages staff delivered a timely course at our 2019 Summer School on ‘Making Linguistics Accessible to Those Who Need It’ designed to benefit people with direct experience working with community language projects.

In 2019, the ERLI (Early Language Inventory) project team based at WSU continued a partnership with Hearing Australia, National Acoustic Laboratories (NAL), Wurli-Wurlinjang Aboriginal Health Service and Tharawal Aboriginal Corporation, to cross-validate NAL checklists of hearing and communication (PLUM, HATS) with the ERLI tool. It also worked with Aboriginal professionals to co-design a suite of resources and training materials supported by funding to NAL from the Department of the Prime Minister and Cabinet. ERLI was launched at the 2019 Speech Pathology Australia Conference. (For more, see pg 78.)

CIs from the ANU and Melbourne nodes continued collaborating with the Australian Signals Directorate, including on the development of a transcribed and time-aligned spoken corpus of Tok Pisin (at ANU, in collaboration with Sydney/ PARADISEC-based Steven Gagau) – which, surprisingly for the demographically most important Pacific language, has lacked any such corpus until now – and, at Melbourne, on further extensions to the Bislama corpus.

In industry collaboration, the TAP partnered with Boeing software engineers to reduce the size of the ELPIS software by meticulously digging deep in the speech recognition toolkit’s code. The team used a combination of manual and automated methods to identify the minimum set of scripts required from the Kaldi toolkit. This project aims to make the software smaller and easier to distribute, a prerequisite to porting the software to handheld devices such as smartphones and tablets.

Another successful industry partnership came from Affiliate Dominque Estival (WSU) who has been leading research into the factors that affect miscommunication between pilots and air traffic controllers in commercial aviation. In 2019, the Civil
Aviation Safety Authority launched its updated ‘Safety Behaviours for Pilots’ training kit, which includes interviews with Estival. She also completed a ‘Mobile speech application for aviation communication’ collaboration with ElocutionLabs, a start-up based in Canberra, which will create a phone app to help student pilots practise in their own time.

**Building international networks**

CoEDL continued to extend and deepen our relationships with groups in Pacific countries. In August, we partnered with The Kulu Language Institute (KLI) to organise a week-long workshop in Honiara that attracted 100 participants representing 44 languages. Each day focused on a different set of topics, such as the structure, historical and contemporary connections among local languages, archival material, audio recording and transcription techniques, and developing dictionaries. The enthusiasm and engagement of participants was remarkable: 15 Solomon Islanders, speaking at least 35 languages between them also recorded short videos where they talk about what’s important and special about their languages. In addition, two public lectures (one by Nick Evans and one by KLI Director Alpheaus Zobule) were held in the Solomon Islands National Museum, each attended by over one hundred people representing every region of this linguistically diverse country.

A proposal led by Director Nick Evans, Jacques Vernaudon (Université de la Polynésie Française) and CI Nick Thieberger to the Fonds Pacifique to develop a French language interface for PARADISEC and significantly increase the amount of material archived there from the Francophone Pacific was successful. Involving a coalition between CoEDL and several institutions based in French Polynesia, it enabled Thieberger to travel to Tahiti and spend a week working with various Polynesian language academies on specifications for a local archive. He took 54 tapes of oral tradition that were digitised by CoEDL and PARADISEC and will form the basis for this new archive.

Four Centre researchers, CI Nick Thieberger, Postdoc Rosey Billington, PhD student Catalina Torres and Affiliate Linda Barwick were presenters at the 11th International Conference on Oceanic Linguistics held at University of New Caledonia. CoEDL also supported the participation of Cook Islands Maori linguist Akevai Nicholas (Massey University, New Zealand) in workshop sessions and meetings in Tahiti.

In West Papua (Indonesia) CoEDL sponsored the Fifth International Workshop on the Languages of Papua hosted by the University of Papua in Manokwari under the auspices of its Centre for Endangered Language Documentation, which is directed by Yusuf Sawaki, a doctoral alumnus of ANU. Nick Evans, Postdoc Sonja Riesberg, AI Nikolaus Himmelmann, alumnus Christian Doehler and Affiliate Darja Hoenigman all presented papers at the workshop.

In Papua New Guinea, Gertrude Tamade Elai, a lawyer who worked with CoEDL on her Taemi language for a field methods class in 2015, won the Papua New Guinea Australia Alumni Association’s 2018 Alumni of the Year Award. Mrs Elai later worked with UM-based CIs Rachel Nordlinger and Nick Thieberger to produce some Taemi books for the school in her village of Taemigadu.
In an exciting new collaboration between Australian and American researchers, and Australian Indigenous people, CI Felicity Meakins has been awarded $US100,000 by NASA to conduct ‘Cross-Linguistic EEG Comparisons on the use of Geomagnetic Cues by the Human Brain as a Path for Understanding Consciousness’. Auspiced by the California Institute of Technology and involving partner Karungkarni Arts, the project builds on the extensive linguistic and cognitive spatial relations work developed by PI Stephen Levinson, and undertaken with the Gurindji community by CI Felicity Meakins and Cassandra Algy for the last decade. Relationships with Chinese scholarship on minority languages of Yunnan province were furthered by an exchange visit to CoEDL/ANU by PhD student Wei Han, enrolled at Shanghai University. Han, who is working on the minority Wa language (Austroasiatic), immersed herself in a number of courses offered by CoEDL/ANU, including Postdoc Matt Carroll’s course on Linguistic Field Methods.

Meanwhile, our close partnerships with the Max Planck Institutes of Psycholinguistics, and the Science of Human History, respectively in Nijmegen and Jena, continue to produce important new research on the evolution of languages and, at the level of data infrastructure, the building of the global Glottobank and Parabank databases to support this work (see the Evolution chapter). In 2019, CI Felicity Meakins was invited to give a distinguished lecture in Jena; while PI Levinson delivered the first of the new flagship Synapse series seminars at the ANU School of Culture, History and Language.

SCOPIC

The cross-linguistic semantic typology project Social Cognition Parallax Interview Corpus (SCOPIC) held three week-long workshops during 2019, with over 40 participants and more than 30 languages represented – in Stockholm, Tokyo and Canberra. These meetings helped to support a major push forward in corpus annotation and assessment of results: SCOPIC now contains 27 languages with an annotated cross-linguistic corpus of 369,511 words, including new corpora of Jakarta Indonesian, Malay, Jinghpaw and Sibe. And the international collaborations continued to solidify: the Japanese participating branch (the Institute for the Languages and Cultures of Africa at the Tokyo University of Foreign Studies) obtained funding to support SCOPIC for another two years.

Dr Dolgor Guntsetseg, a researcher working on Khalka Mongolian, obtained a prestigious grant from the Deutsche Forschungsgemeinschaft, which will support her research on social cognition with project members Elena Skribnik and Nicholas Evans, hosted at the Ludwig-Maximilians-Universität München in Germany. Project members also had a successful run of publications that involved SCOPIC data in prominent international journals including Linguistik Indonesia, Corpora, Asia-Pacific Language Variation, Linguistic Typology and multiple authors in a special volume of Open Linguistics focusing on Engagement.
Participants solving Indigenous language riddles at a course on “Making linguistics accessible to those who need it”, taught by Living Languages and partners at Summer School 2019.
OUTREACH AND ENGAGEMENT

SECTION SIX
OUTREACH AND ENGAGEMENT

The UN International Year of Indigenous Languages (IYIL2019) shone a special spotlight on the work of Centre researchers, who are at the forefront of working with Indigenous communities to document, preserve and revitalise the precious linguistic heritage of Australia and the Asia-Pacific region.

Disseminating ideas, concepts and the latest research findings
In IYIL2019, CoEDL significantly ramped the output of our own communication channels, setting up a dedicated web page that collected 40 news items on Indigenous language work by the end of the year. Our website and social media channels Facebook, Twitter and LinkedIn, saw increases in visitation and following of more than 30 per cent compared with the previous year. A steady stream of new videos on the Centre’s YouTube channel, including a new ‘Meet the Chief Investigator’ series, attracted thousands of views and dozens of new subscribers.

Media: As could be expected, IYIL2019 dominated the media presence of CoEDL members, who were in high demand throughout the year. Highlights included:

- The Centre’s Patji-Dawes Language Teaching Award, covered by no less than eight media outlets (see box on pg 137).
- The 50 Words project (see box on pg 144).
- The inaugural Paper and Talk Workshop for Aboriginal Australians, by AIATSIS and the Resource Network for Linguistic Diversity, involving Deputy Director Jane Simpson, Research Associate Doug Marmion and PhD student (and Ngiyampaa woman) Lesley Woods, was covered extensively by ABC Canberra on radio, television and online.
- Several radio interviews given by CI Rachel Nordlinger following her landmark public lecture on The Genius of Australian Indigenous Languages in Sydney in February.
- Several opinion pieces in The Conversation including one by CI Felicity Meakins and Affiliate Michael Walsh on the background behind the new 50 cent coin, specially produced by the Royal Australian Mint to celebrate IYIL2019. The coin, developed in consultation with Indigenous language custodian groups featured 14 different words for ‘money’ from Australian Indigenous languages.
- A conference on ‘Language Keepers: Preserving the Indigenous Languages of the Pacific’, by the National Library of Australia, held in association with IYIL2019 resulted in CI Nick Thieberger giving interviews to four separate radio stations.
- With a CoEDL Transdisciplinary Grant for ‘Developing a model of second language acquisition for Indigenous language revival in eastern Australia’, Affiliate Hilary Smith collected data through a series of age-appropriate tools based on the classical Affective, Behavioural and Cognitive (ABC) theoretical framework from social psychology attitude theory. Smith was interviewed by several New Zealand media outlets about her work in 2019.
Indigenous language teachers win Patji-Dawes Award

The Centre’s biennial Patji-Dawes Award recognises outstanding achievement in teaching a language other than English by an accomplished practitioner in Australia. It is named after Aboriginal woman Patyegarang and her student, First Fleet Lieutenant William Dawes, whom she taught her language.

In IYIL2019, two teachers of Australian Indigenous languages were the joint winners of the award. Sophia Mung, a Gija woman from Purnululu (East Kimberley, WA), was recognised for decades of tireless work to ensure the Gija language is passed down to future generations. An Aboriginal Teacher’s Assistant, Sophia has worked with local elders to pass on language and cultural knowledge, teaching small children, creating bi-lingual books, translating English literacy texts into Gija and helping to develop appropriate curricula. “I was very lucky to have had my grandparents and all my other old people surround me with my mother tongue which is Gija, my traditional language,” she said. “I now feel really passionate about teaching it to our future generations.”

Brother Stephen Morelli is a teacher and linguist who has worked closely with Aboriginal communities on the mid-north coast of NSW for over 30 years to revive and teach the Gumbaynggirr language. He has compiled a dictionary and grammar of Gumbaynggirr, co-developed courses up to Certificate III level, and co-edited the *Gumbaynggirr Yuludarla Jandaygam Gumbaynggirr Dreaming Story Collection*.

“For me, this award says something about the great revival of the Gumbaynggirr people, about the huge sense of pride felt by the local Aboriginal people in ownership of their heritage,” Brother Morelli said. “This award in some way honours the achievements of the people too – it’s not just an honour for me.” Brother Steve was nominated by Gary Williams, Gumbaynggirr community elder and CEO of the Muurrbay Aboriginal Language and Culture Cooperative.

The award is co-sponsored by the Australian Federation of Modern Language Teachers Associations (AFMLTA) and the Languages and Cultures Network for Australian Universities and was presented at the 22nd AFMLTA International Languages Conference.
But it wasn’t all IYIL in 2019. *Old People’s Home For 4 Year Olds* was a heart-warming, beautifully filmed documentary experiment to see if inter-generational contact can improve the health and wellbeing of older people. Screened on ABC TV over five episodes, it featured AI Evan Kidd as the resident child psychology expert monitoring the progress of the children through the journey, and won the 2019 AACTA Award for Best Documentary or Factual. Kidd was also named one of Australia’s top researchers in The Australian’s research supplement for 2019.

An ANU media release on research by AI Simon Greenhill, Affiliates Lindell Bromham and Xia Hua and colleagues, ‘Climate a bigger driver of language diversity than landscape’, drew considerable international attention. Bromham and Hua were subsequently interviewed on the Talk the Talk linguistic podcast by CoEDL PhD student Hedvig Skirgård.

*Public lectures:* Public lectures kicked off with a bang in February, when CI Rachel Nordlinger, one of the country’s foremost experts on Australian Indigenous languages, explained their unique importance to an audience of about 450 at the National Institute of Dramatic Arts in Sydney, as part of our CoEDLFest member conference.

At ANU, the Centre partnered with the School of Culture, History and Language to deliver its new flagship ‘Synapse: Trans-Disciplinary Approaches to the Past’ lecture series, providing four of its eight speakers during the year. Opening the series was Stephen Levinson (MPI-Psycholinguistics) on the ‘Interactional Foundations of Language:

The Interaction Engine Hypothesis’; Director Nick Evans delivered a full wrap-up of his Wellsprings Laureate Project on The Dynamics of Language Diversity; PI Russell Gray (MPI-SHH) spoke on ‘Words & Genes as Windows on Our Past’; and CI Bethwyn Evans described ‘Signal and Process: Reconstructing Language Histories in Melanesia’.

A week-long workshop in Honiara, ‘Understanding our languages: Solomon Islands’, also included two public lectures held in the Solomon Islands National Museum, each attended by over one hundred people representing every region of this linguistically diverse country. Nick Evans’ keynote lecture on the value of linguistic diversity struck a chord with many Islanders who lament the loss and rapid transformations of Indigenous languages and ways of living. In his lecture, pioneering Solomon Islands linguist and Luqa speaker Alpheaus Zobule outlined the work of his Kulu Language Institute, linking it to the vernacular language policy of the Ministry of Education and Human Resources Development, which acknowledges the right of children to be taught in a language that they understand.

CI Felicity Meakins gave a Distinguished Lecture on ‘Language diversification through the lens of rapid intergenerational change?’ at our partner The Max Planck Institute for the Science of Human History in Jena, where she described the rapid birth of Gurindji Kriol in northern Australia.
At Summer School, Centre Affiliate Associate Professor Rob Amery (University of Adelaide) outlined the journey to ‘Re-Awakening Kaurna, the Language of the Adelaide Plains’. He was joined by Aboriginal man and language activist, Jack Kanya Buckskin, Chair of Kaurna Warra Karrpanthi Aboriginal Corporation, who regaled the audience with the lighter side of language revitalisation in the community.

Conferences, gatherings and workshops:
Internationally, CoEDL sponsored a week-long workshop in ‘Understanding our languages: Solomon Islands’, in the country’s capital Honiara. Centre researchers delivered training sessions, advice and public outreach events (see pg 142 for more information).

A national conference on ‘Language Keepers: Preserving the Indigenous Languages of the Pacific’, was held by the National Library of Australia, in association with IYIL2019, with presentations by several CoEDL researchers.

The national PULiiMA Indigenous Languages and Technology Conference was well attended by CoEDL members, who delivered training on topics such as making good quality recordings and using Elan for transcription and translation. TAP Manager Ben Foley, Susan Beetson, Alina Rakhi and Nicholas Lambourne held ELPIS workshops for language workers, language centre managers and linguists. Warlpiri educators Sabrina Napangardi Granites and Nancy Nungarrayi Collins from Yuendumu School in the NT were supported by CoEDL to present at PULiiMA, along with Fiona Napaljarri Gibson. Their presentation, ‘Warlpiri talk in the classroom, thinking together about teaching and learning at Yuendumu School’, described their collaboration with ANU PhD student Emma Browne in recording and reflecting on Warlpiri use in the classroom. Sabrina was subsequently interviewed by Mikaela Simpson on ABC Radio Darwin.

Centre researchers were active during the 22nd International Languages Conference of the Australian Federation of Modern Language Teachers Associations (AFMLTA), where Deputy Director Jane Simpson delivered the Horwood Memorial lecture on ‘Learning and speaking First Nations Languages in Australia’, which was subsequently published in AFMLTA’s Babel journal. The language and education work of Centre members featured in the biennial Languages and Cultures Network for Australian Universities (LCNAU) conference in Perth in November. Of special note in IYIL2019 was work on teaching Indigenous languages in universities by CoEDL members and Gamilaraay educators Priscilla Strasek and Tracey Cameron.

Local workshops included one in association with the Early Childhood Educators Association Conference in Alice Springs in June. It was run by Al Carmel O’Shannessy and Arrernte educators Felicity Hayes and Anne-Maria Palmer on the question ‘How do the sound systems of Central Australian languages differ from those of English?’. 
Creating a deeper understanding around language

The influence of Centre members was revealed late in the IYIL2019 when Director Nick Evans, CI Rachel Nordlinger and PI Greville Corbett were named as co-authors of some of the most influential articles in *Language*, the premier linguistics journal, on their work highlighting data from Indigenous languages.

Several dictionaries were launched in 2019. First off the rank was the *Ngarinyman to English Dictionary*, co-edited by CIs Caroline Jones and Felicity Meakins. It was launched by well-known Indigenous film producer Rachel Perkins at the AIATSIS research conference in July, followed by a public lecture with Daniel Browning of the ABC’s AWAYE! Program, and a special event in the Parliamentary Library in Canberra. Jones, Meakins and Ngarinyman woman Mikayla Friday-Shaw presented a copy of the dictionary and other resources to Parliamentary Librarian Dr Dianne Heriot. They explained the research process and the wider impacts of making a First Nations dictionary to the gathered editors, researchers and advisers who support federal politicians.

Dictionaries are major community resources, and several others were launched in association with community events: the Mudburra dictionary launched by NT MP Warren Snowdon, who also launched the new edition of the Alyawarr dictionary, and the Ngarrindjeri dictionary (concise second edition). The latter was launched in August together with the graduation ceremony for 20 students who completed the Certificate 3 in Ngarrindjeri. (For more on these dictionaries, see the *Shape* chapter.)

A new set of posters has been produced as part of the ‘Strengthening language, strengthening community: the Mildura languages project’, a collaboration between Indigenous community members, Postdoc Debbie Loakes and Affiliate Jill Vaughan. The posters feature vocabulary around the environmental themes of ‘Sky’, ‘Earth’...
and ‘Wildlife’ in the Latji Latji and Barkindji languages of the Mildura region. Artworks for the posters were contributed by Koorie students from Chaffey Secondary College, and they were designed by University of Melbourne student Marian Stoney. The posters have been returned to the community and are displayed in schools and community institutions around Mildura.

Many of our WSU node members at the MARCS Institute for Brain, Behaviour and Development were involved in an exciting new podcast series, BabyLab, developed in partnership with Babyology. Designed to help Australian parents understand how babies learn to communicate and hosted by Jamila Rizvi, the eight-part series discussed research in psychology, linguistics, speech and language, and explored topics such as baby talk, bilingualism, learning to read, first words and play. Face-to-face outreach events included a short talk and hands-on activity around infant vocabulary development for parents and babies at Penrith City Library by second year undergraduate and WSU Academy student Hollie Hammond and CI Caroline Jones in July.

Affiliate Ruth Singer produced multilingual films with young people in their languages, including a new series of Nowhere Girls, with filmmakers Elizabeth Langslow and Leandro Palacio and the young people of Warruwi community. The young people who co-wrote the story speak their own languages: Mawng, Kunwinjku and Torres Strait Creole. The project was a great way to get young people involved in language work, document their multilingual language use and make Indigenous languages more visible online.

School students remain a focus for CoEDL members. Nodes continued their work hosting and sponsoring the annual OZCLO, the Australian Computational and Linguistics Olympiad, in different locations, with Affiliate Elisabeth Mayer taking overall lead across Australia. In 2019, 80 schools competed with 529 teams and 2,042 competitors, up from 2018.

‘Language Across Time’ was a special event where Daniel Midgley, Nick Evans, Celeste Rodriguez Louro, Mary Walworth and Henry Wu guided students through some of the ways in which historical linguistics can be a window onto the human past. Organised by CI Bethwyn Evans and Affiliate Luisa Miceli (UWA) it was held during the 24th International Conference of Historical Linguistics (see pg 68). The videos and other classroom resources from this event continue to be available through the CoEDL website.

CoEDL Affiliate Marie Boden hosted three workshops for 48 Aboriginal students who are part of the critical thinking project at UQ which included using Ozobots to tell stories and learn computational thinking. All the students live in remote areas where there isn’t access to daily schools, so this was a special opportunity for them to visit UQ.
Feedback was very positive and the students were highly engaged in all the activities that were offered in various STEM subjects.

ANU continued its participation in the National Youth Science Forum. An afternoon of linguistics run by CoEDL members and ANU Summer Research Scholars attracted thirteen students from across Australia (Tasmania, Mount Isa, Perth, SA, eastern coast). While their science interests ranged from astrophysics to psychology and animal science, they shared a common interest in language, solving language problems, inventing sign systems and learning about the number and diversity of the world’s languages. “Awesome” is how they summed it up.

**Policy and industry engagement**

In IYIL2019, CoEDL members found themselves in greater demand to provide expert advice on matters relating to the preservation, revitalisation, teaching and learning of Indigenous languages. The audiences for these briefing ranged from the Canadian High Commission, to global corporation Serco Asia-Pacific, to the Governor-General of Australia himself. ANU CoEDL members and AIATSIS continued their work on the National Indigenous Languages Report with regular briefings to the Department of Communication and the Arts. ANU members also met with the federal Department of Education and Training to discuss evaluation processes for apps in Indigenous education. (For more, see also the Linkages chapter).

UQ and Boeing staff discuss approaches to analysing the software dependencies of the ELPIS speech recognition project. Photo by Mick Richards.

CI Nick Thieberger met with senior Australian Government officials in the Pacific Strategy Unit of the Department of Foreign Affairs and Trade, to discuss supporting Pacific cultural agencies via PARADISEC and the Pacific Manuscripts Bureau. Thieberger is also closely involved in the proposal to establish an Australian humanities Language Data Commons, led by Affiliates Michael Haugh and Simon Musgrave, and with support from the Australian Academy of the Humanities.
On the industry front, researchers from our WSU were awarded $256,000 by SafeWork NSW for a study into the delivery of e-mental health services to remote and rural farming communities (Affiliates Mark Antoniou, Dominique Estival and Anne Dwyer, with Weicong Li). The team’s specialist skills in language science and machine learning will be used to analyse SMS-based support for and interactions with farmers as a form of program evaluation (both quantitative and qualitative), over an 18-month period. Meanwhile ANU researchers in language and education were awarded a contract from the OECD to provide working papers on Indigenous languages and education at preschool and school level.

Social media at a glance

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<th>URL</th>
<th>Statistics</th>
</tr>
</thead>
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<td>dynamicsoflanguage.edu.au</td>
<td>165,280 page views</td>
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<tr>
<td>Facebook</td>
<td>facebook.com/CoEDL</td>
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<td>LinkedIn</td>
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<tr>
<td>iTunes</td>
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<td>21 downloads</td>
</tr>
</tbody>
</table>
OUTREACH AND ENGAGEMENT

Highlights: International Year of Indigenous Languages

A major highlight of IYIL2019 was the 50 Words project led by CIs Rachel Nordlinger and Nick Thieberger in collaboration with the UM Research Unit for Indigenous Language (RUIL), which aims to provide fifty words in every Indigenous language of Australia. The words are provided online with community permission, and with audio provided by a language speaker. The languages and words are displayed on a map of Australia so that users can easily find the information relevant to their local area, providing a much-needed resource for schools and educational organisations, and for the general public to discover and appreciate the diversity of First Nations’ languages around Australia (http://50words.online/).

By the end of the year, the map featured recordings for 44 languages and garnered a large amount of media attention, including from Fairfax papers and multiple radio stations. In November, the Governor-General of Australia, the Honourable David Hurley, who famously opened his acceptance speech with an acknowledgement of country in Ngunnawal, visited RUIL with his wife to learn more about the project.

In IYIL2019, CoEDL was a proud sponsor, co-organiser, contributor and supporter of many exhibitions celebrating Indigenous languages. Nandiri’ba’nya: Language and Country, a brainchild of Affiliate Rachel Hendery, was shown at the Library of the University of Technology Sydney. The Tarnanthi Festival in SA featured Ankkinyi Apparr, Ankkinyi Mangurr (Our Language, Our Designs) at the State Library of South Australia, with alumna Samantha Disbray as consulting linguist; at the South Australian Museum was Still in my mind: Gurindji location, experience and visuality led by artist and Affiliate Brenda L. Croft and CI Felicity Meakins; while the Hahndorf Academy hosted Painted Stories: Linking Country, art and culture for language revival, which was developed by the Pama Language Centre, where General Manager Karin Calley is an Affiliate.
CoEDL assisted with developing two Canberra exhibitions: *Indigenous Languages at ANU* at the Menzies Library, and *Ngalipa Nyangu Jaru: Pirjirdi Ka Ngalpa Mardani* (Our Language: Keeping Us Strong) at AIATSIS, which was a celebration of the importance of language to the Ngunawal, Warlpiri, Meriam Mer, and the Aboriginal communities of the Pilbara region.

Our main archival repository PARADISEC undertook a number of exciting outreach activities in IYIL2019. For *Mystery Language of the Week*, each week PARADISEC called on the public to help identify a language in the archive by listening to short audio grabs and contributing their knowledge to the descriptive metadata. *Soundscape* features an interactive online map where visitors can listen to audio snippets of hundreds of endangered languages from around the world. *Toksave* is a new podcast series where listeners join musicologist Jodie Kell and archivist Steven Gagau as they host a series of interviews with people who have found personal and cultural connections with collections in the archive.

CI Felicity Meakins continued her long-standing partnership with the Gurindji people of the Northern Territory, starting with a book tour of *Songs from the Stations* (see our 2018 annual report). In IYIL2019, she collaborated with Jenny Green, Cassandra Algy and other Gurindji people, and Karungkarni Arts, to produce 15 short videos demonstrating signs for people, places, artefacts and actions, called Takataka, which won the ICTV Video Award for Best Language Film. One of the stories on the ICTV Gurindji portal – *Kunpulu* (sawfish) – featured in the CSIRO’s *Double Helix* magazine. Meakins also published *Karu: Growing up Gurindji* with Violet Wadrill, Biddy Wavehill and Topsy Ngarnjal, which reveals the stories told by women about their history and culture.
OUTREACH AND ENGAGEMENT

There were about 230 media stories about the Centre’s research in 2019, with a major focus on the UN International Year of Indigenous Languages (IYIL2019). Here are some highlights of the year’s coverage.

*Flight Safety Australia* 14 January

Over two articles, the magazine of the Civil Aviation Safety Authority profiles the work of Affiliate, linguist and pilot Domnique Estival. ‘Cracking the code: Aviation English’, followed by ‘Communication – it’s what we do all the time’, explain how communication misunderstandings cost time and money, can compromise safety – and what can be done about them.

*ABC Radio* 4 February

Ahead of her major public lecture on ‘The genius of Australian Indigenous languages, and why they are important for all of us’, CI Rachel Nordlinger sat down with Phillip Adams for his ‘Late Night Live’ program to talk all things Indigenous languages – one of many Centre members doing ABC radio interviews during IYIL2019.

*The National Tribune* 23 March

One of India’s leading English-language dailies was among a number of outlets running the ANU story publicising that a region’s climate has a greater impact than landscape on how many languages are spoken there. The study, which used mass data mapping language diversity around the world, was co-authored by AI Simon Green, and Affiliates Lindell Bromham and Xia Hua.

*The Conversation* 9 April

CI Felicity Meakins and Affiliate Michael Walsh describe the background behind ‘The 14 Indigenous words for money on our new 50 cent coin’, a special commemorative edition released by the Royal Australian Mint to celebrate IYIL2019. They explain the plethora of possible sources and etymologies as Australia’s Indigenous peoples invented words for money in their own languages.
Fairfax Media
4 August
CIs Rachel Nordlinger and Nick Thieberger are interviewed about the 50 Words project (see pg 144), along with Jack Kanya Buckskin, who co-presented our Summer School public lecture in November, in an article entitled ‘50 words: From hello to kangaroo, new map of Indigenous languages of Australia’.

The Daily Telegraph
3 September
An article about the work of our WSU node researchers proclaims ‘Bankstown’s BabyLab pioneers research into child development’. One of them, Affiliate Christa Lam-Cassettari, is interviewed about Western Giving Day fundraising events for the MARCS Institute BabyLab and her participation in the Chancellor’s Challenge Abseil.

ABC TV
16 September
After serving as linguistic partners at the inaugural ‘Paper & Talk’ workshop for Indigenous language workers at AIATSIS, Deputy Director Jane Simpson and Research Associate Doug Marmion join, Ngunnawal woman and language researcher Caroline Hughes in a series of stories by ABC Canberra on television, radio and online.

Channel 9 News
28 October
CI Anthony Angwin and a study participant are interviewed about research by PhD student Emma Schimke investigating how overnight sleep can influence learning new words in younger and older adults – testing how a good night’s sleep impacts information retention. The report explains the study’s methodology and ends with a call for participants.
An intense poster session at the Centre’s annual member conference, CoEDLFest 2019, complete with ice cream stand.
Section 7: Centre Visitors and Centre Visits

Outputs
Theses submitted in 2019

**Thesis: Placing spatial language and cognition in context through an investigation of Bininj Kunwok navigation talk**

*PhD: Claudia Cialone*

Abstract: The broad questions asked in this PhD thesis are: How do Bininj Kunwok people from Western Arnhem Land navigate in the bush? Why do they navigate that way, and how do they verbalize their orientation systems? The motivation behind these questions is to expand our understanding of the way humans rely on and use language during spatial navigation. Spatial navigation is more than a decision-making, memory, and planning process.

Open access: https://openresearch-repository.anu.edu.au/handle/1885/164276

**Thesis: Universal and language-specific processing: the case of prosody**

*PhD: Martin Ip*

Abstract: This thesis examined both the production and perception of prosodic cues to prominence and phrasing in native speakers of English and Mandarin Chinese. In focus production, our research revealed that English and Mandarin speakers were alike in how they used prosody to encode prominence, but there were also systematic language-specific differences in the exact degree to which they enhanced the different prosodic cues. This, however, was not the case in focus perception, where English and Mandarin listeners were alike in the degree to which they used prosody to predict upcoming prominence, even though the precise cues in the preceding prosody could differ. Further experiments have demonstrated functional cue equivalence in prosodic focus detection and revealed both cross-language similarities and differences in the production and perception of juncture cues. Overall, prosodic processing is the result of a complex but subtle interplay of universal and language-specific structure.

Open access: https://researchdirect.westernsydney.edu.au/islandora/object/uws%3A53200

**Thesis: Prosody, prominence and segments in Djambarrpuynu**

*PhD: Kathleen Jepson*

Abstract: This thesis is an investigation of the phonetics of prosodic structure and prominence in Djambarrpuynu, an Indigenous language of the Pama-Nyungan family spoken in northeast Arnhem Land, NT. The aim is to provide a phonetic description of aspects of prosody in Djambarrpuynu that contributes to the phonological and phonetic understanding of this language, and that will inform phonological and phonetic investigations of Australian languages. It provides a phonetic account of the effects of word- and phrase-level prominence on segments, and how information structure is expressed by intonational means. Working with controlled speech data collected with speakers on the island community of Milingimbi (Yurrwi), and through a perception study, this thesis is the first substantial quantitative phonetic analysis of Djambarrpuynu.

Open access: https://minerva-access.unimelb.edu.au/handle/11343/227802
Thesis: A grammar of Kunbarlang

PhD: Ivan Kapitonov

Abstract: This thesis is a comprehensive description of Kunbarlang, an Aboriginal language from northern Australia. The description and analysis are based on original field work, as well as build on the preceding body of work by other scholars. Between 2015 and 2018 Kapitonov did field work in Warruwi (South Goulburn Island), Maningrida, and Darwin. The data elicited in those trips and the recordings of narratives and semi-spontaneous conversation constitute the foundation of the present grammar. However, he was fortunate not to be working from scratch. Carolyn Coleman did foundational work on Kunbarlang in central-western Arnhem Land from 1981, which resulted in the first grammar of the language (Coleman 1982). In her subsequent work in the area in the 1990’s, she carried on with lexicographic research in Kunbarlang, Mawng and Maningrida languages. More recently, Dr. Aung Si (Universität zu Köln), Dr. Isabel O’Keeffe (University of Sydney), and Dr. Ruth Singer (University of Melbourne/Australian National University) made a number of recordings of Kunbarlang speakers at Maningrida, Warruwi, Minjilang and Darwin. These recordings provided an invaluable extension to the empirical basis of this grammar.

Open access: https://minerva-access.unimelb.edu.au/handle/11343/225743

Thesis: Morphs in search of meaning: Southeast Solomonic transitive morphology in diachronic perspective

PhD: Katerina Naitoro

Abstract: This thesis examined the distribution, functions and the development of transitive morphology in Southeast Solomonic languages, a subgroup of the Oceanic language family. The valency changing devices, and their allomorphs, are analysed both synchronically and diachronically. The synchronic transitivity marking and argument structure systems are compared with the reconstructed system of the ancestral language Proto Oceanic, and the thesis discusses processes which underpin the changes that have taken place, and their motivations.

Open access: https://openresearch-repository.anu.edu.au/handle/1885/163714

Thesis: Rescuing a language from extinction: documentation and practical steps for the revitalisation of (Western) Yugur

PhD: Yarjis Xueqing Zhong

Abstract: The Yugur ethnic group, also known as the Yellow Uyghur, are one of the smallest ethnic minorities in north-western China. Yugur people speak three distinct languages: Western Yugur (also known as Saryg Yugur), a Turkic language with about 2,000 speakers; Eastern Yugur (also known as Shira Yugur), a Mongolic language with about 2,000 speakers; and the local Mandarin Chinese dialect. Both Western and Eastern Yugur are classified as critically endangered (Janhunen, 2010), and maintaining these languages faces challenges. One of the principal objectives of this research is to add to the currently small amount of documentation of Western Yugur.

Open access: https://openresearch-repository.anu.edu.au/handle/1885/173110
**Publications**


Bow, Cathy. 2019a. “Collaboratively Designing an Online Course to Teach an Australian Indigenous Language at University.” *Babel* 54(1/2):54–60.

Bow, Cathy. 2019b. “Diverse Socio-Technical Aspects of a Digital Archive of Aboriginal Languages.” *Archives and Manuscripts* 0(0):1–19.


Simpson, Jane, Samantha Disbray and Carmel O’Shannessy (Eds). 2019. Teaching and Learning Australian Aboriginal and Torres Strait Islander languages. *Babel* Vol. 54, Issues 1-2 (Special double edition.)


Kaurna language activist Jack Kanya Buckskin, Chair of Kaurna Warra Karrpanthi Aboriginal Corporation, dazzles at the Summer School public lecture.
SECTION EIGHT

PERFORMANCE INDICATORS
## PERFORMANCE INDICATORS

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Target 2019</th>
<th>Actual</th>
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<tr>
<td><strong>Research Findings</strong></td>
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<tr>
<td>Research Outputs</td>
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<td>3 Chief Investigators were promoted</td>
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<td>1 Associate Investigator named in new ARC CoE</td>
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<td>Organisational Support</td>
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<td>New Associate Organisations (national)</td>
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The Centre’s annual member conference – CoEDLFest 2019.
**Consolidated Financial Statement 2019**

**ARC Centre of Excellence for the Dynamics of Language**

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<td>The University of Melbourne</td>
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<td>The University of Queensland</td>
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<td>Western Sydney University</td>
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<td><strong>Equipment</strong></td>
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<td>Education, Outreach and Communication</td>
<td>130,079.80</td>
</tr>
<tr>
<td><strong>PhD Support</strong></td>
<td>69,005.71</td>
</tr>
<tr>
<td>Fieldwork and Documentation</td>
<td>278,489.99</td>
</tr>
<tr>
<td><strong>Total Expenditure</strong></td>
<td>4,959,636.50</td>
</tr>
</tbody>
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