

SADiLaR shines spotlight on research during spring conference season

By Birgit Ottermann, issued by North-West University (NWU)

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The South African Centre for Digital Language Resources (SADiLaR) enjoyed a strong representation during South Africa's spring conference season. Several of its digital humanities researchers showcased their research at a series of conferences which took place across South Africa during September and October 2023.



Prof Langa Khumalo, SADiLaR's executive director, and Prof Menno van Zaanen, SADiLaR's professor in digital humanities, attended the 27th International Conference of the African Association for Lexicography (AFRILEX) from 26 to 29 September 2023 at the University of the Free State in Bloemfontein.

Van Zaanen gave a presentation, titled 'Developing a dictionary in N|uu, Nama, Afrikaans and English from field notes'. It highlighted the [award-winning work done by Van Zaanen, together with linguists Bonny Sands and Kerry Jones](#), to create a quadrilingual dictionary aimed at preserving one of South Africa's highly endangered minority languages, N|uu, spoken by a handful of San people in the Northern Cape.

"SADiLaR played a leading role in making accessible and converting the dictionary data, along with audio files for many words, and making it digitally available via an online dictionary platform and app in addition to a physical dictionary," Van Zaanen said.

"In my presentation, I discussed how it indeed is possible to create a dictionary from field linguist data, despite the many underlying difficulties and lessons learned. Each step of the data clean-up and conversion required specialised knowledge and skills, and I shared the tools we used to simplify part of the process."

Extension of tenure as AFRILEX president

Prof Khumalo gave a presentation, titled 'Semi-automatic glossary extraction in LSP corpora', in which he discussed the semi-automatic extraction of a glossary that is unique to a language policy subject domain.

"Automated terminology extraction is a crucial task in natural language processing that automatically provides a ranked list of key words," Khumalo said. "Since the new Language Policy Framework For Public Higher Education Institutions came into effect, language policy has been a very contemporaneous and relevant subject in the South African higher education context. Finding the terms that are specific to a particular subject domain is critical to organising the knowledge related to that specialised subject domain. Drawing from the Corpus Linguistics approach, my research used keyword analysis to extract key terms, using the Keyness function of the AntConc program," he explained.

Khumalo has been associated with AFRILEX for many years. He currently is the president of the organisation and it was announced at the conference that his tenure had been extended by another three years, from 2024 to 2026.

"It is such an honour, personally, to have the vote of confidence from my academic peers, and, most importantly, it is testament to the sterling work that the entire AFRILEX Board did in the last two years in advancing theoretical lexicography in the country, continent and globally as part of the GLOBALEX. I want to congratulate my fellow board members for all the milestones," he commented.

The role of morphological analysers in preserving Nguni languages

Four of SADIaR's digital humanities researchers attended the African Language Association of Southern Africa's (ALASA) 24th International Conference from 26 to 29 September 2023 in Boksburg, Gauteng.

Nomsa Skosana and Dr Muzi Matfunjwa co-presented a collaborative paper, titled 'Morphological Analysers for Low-Resource Nguni Languages', which they wrote with another SADIaR researcher, Respect Mlambo.

"During our presentation, we discussed the findings of our results when we evaluated the effectiveness of these morphological analysers, specifically in the context of Siswati and isiNdebele," Skosana said. "The results we obtained were intriguing and prompted numerous questions from the audience, many of whom were previously unaware of the existence of such tools for Nguni languages. They showed a keen interest in learning more about these tools, and we further directed them to [access these tools freely from SADIaR's website](#)."

According to Skosana their research topic directly aligned with the conference theme of 'Beyond the intellectualisation of African languages for awakening potential in Africa', as they explored how these analysers play a crucial role in preserving Nguni languages.

"These tools accomplish this by using data written in these languages. They also empower our language communities by facilitating a better understanding of these indigenous languages, and aiding education and language learning.

"I thoroughly enjoyed my time at the conference and gained valuable insights from fellow scholars, particularly those who shared their research on translation and terminology development," Skosana added.

Faster research analysis with Voyant Tools

At the same conference, Rooweither Mabuya and Andiswa Bukula hosted a workshop, titled 'South African Centre for Digital Language Resources: Technologies and Resources for African Languages: Voyant Tools'.

"We facilitated a one-hour workshop where we spoke briefly about our work at SADIaR, the opportunities to collaborate and possible assistance in project-related matters, before taking the participants through [Voyant Tools](#)," Bukula said. "We looked at the functionality of the tool and how it can be utilised for data analysis and visualisation purposes. We also showed participants the potential that these tools have in enabling smarter and faster ways of doing your research analysis, besides the traditional ways of doing your analysis manually, which in most cases takes up too much time and human

capacity.”

According to Mabuya, the participants were engaged and found Voyant Tools valuable and applicable to their research. “We received quite a few requests from different institutions to go present Voyant Tools at their departments for their colleagues and students. The conference was a great experience and platform to network and connect with trailblazers in the African Languages and Linguistics discipline,” she remarked.

Using technology to preserve minority languages

Lastly, SADiLaR’s Respect Mlambo attended the 4th Triennial School of Arts (SoA) Conference, held at Sun City Resort in South Africa’s Northwest Province, from 16 to 20 October 2023.

“I presented a paper, titled ‘The Use of Technology to Preserve South African Indigenous Languages’, which I co-authored with Dr Muzi Matfunjwa,” Mlambo said. “The preservation of South Africa’s minority languages is critical to prevent them from losing their identity and becoming extinct. The four minority indigenous languages with the fewest speakers among South Africa’s eleven official languages are Xitsonga, Siswati, Tshivenda, and isiNdebele. The preservation of these languages in South Africa has been a longstanding challenge due to various social and economic factors. With the advancement of technology, opportunities have arisen to preserve and promote the use of these languages. Therefore, this study explores various technological strategies that can be used to preserve the minority South African indigenous languages.”

Mlambo continued to explain that these languages can be preserved by making them widely accessible to users through various strategies, such as localisation of daily used technology, translation through crowdsourcing, digitalisation and archiving. Digital learning tools, such as machine translation and creating online dictionaries, can also contribute to preserving the languages.

“Each of these strategies offer benefits on how technology could be employed effectively and facilitate the preservation of minority languages. The delegates who came to hear the presentation highly welcomed it and indicated that all stakeholders in South Africa’s indigenous languages should begin working together to make these languages digitally accessible,” Mlambo concluded.

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