

## Post Specification

<b>Post Title:</b>	<b>Research Fellow in Computational Linguistics</b>
<b>Post Status:</b>	Fixed-term Contract (36 months) – Full-time.
<b>Research Group / Department / School:</b>	School of Linguistic, Speech and Communication Sciences, Trinity College Dublin, the University of Dublin
<b>Location:</b>	School of Linguistic, Speech and Communication Sciences, Arts Building, Trinity College Dublin, the University of Dublin, College Green, Dublin 2, Ireland
<b>Reports to:</b>	Associate Professor Tim Bodt
<b>Salary:</b>	Appointment will be made on the IUA scale PD1 Point 5, increasing to IUA scale PD2 Point 1 (Gross salary €51,993 to €54,850 per annum)
<b>Hours of Work:</b>	39
<b>Closing Date:</b>	12 Noon (GMT), 31 October 2025

## **Post Summary**

### *Research Fellow in Computational Linguistics for ERC project “Lo-Rig”*

The School of Linguistic, Speech and Communication Sciences is seeking to recruit a highly motivated and outstanding Research Fellow (‘postdoctoral researcher’) for a period of 3 years (36 months). The candidate will be given the opportunity to work on applying and further developing Natural Language Processing (NLP) tools for low-resource, endangered languages, in particular, the Gongduk and Mönpa languages of Bhutan, based on a corpus of natural speech and elicitation. We are seeking highly motivated applicants, who are genuinely interested in the research and goals of the European Research Council-funded project “Lo-Rig”.

## **Standard Duties and Responsibilities of the Post**

Applicants are expected to have a strong interest in the topic and to be highly motivated to work on the project. Major research activities will include:

- 1) Use small quantities of recordings manually transcribed and translated in ELAN by the PI, PhD and RAs to train off-the-shelf ASR models for the Gongduk and Mönpa languages. The automated transcriptions will be manually corrected and serve as inputs to finetune the models in an iterative process;
- 2) Further develop an open-source ASR model for under-resourced languages ultimately aiming for the creation of a ‘daisy-chain’ developing methods for the initial segmentation of the recording in speech utterances by multiple speakers; accommodate for non-verbal communication; deal with overlapping speech; allow for the use of non-verified and non-IPA transcriptions; and in general improve the application of ASR to recordings of natural speech. The PD has considerable freedom to identify and work on issues in close cooperation with the field linguists in the project;
- 3) Develop a database for multilingually trained phone-level models that includes transcribed text from a wide variety of languages of Bhutan and the wider Himalayan region that can be used for speech recognition for recordings of related languages;

- 4) Publish articles in peer-reviewed journals describing the application and development of ASR in the context of the project, contributing to the wider narrative and disseminating the practical experiences;
- 5) Assist in the development of software applications that contribute to language promotion and revitalisation, including for use on mobile phones such as autocompletion keyboards, speech recognition and dictionary apps;
- 6) Together with the PI and PhD conduct a Bayesian phylolinguistic (phylogenetic) study (in a standard toolkit, e.g., BEAST, BEAUTi) to possibly identify the closest linguistic relatives of Gongduk and Mönpa;
- 7) Assist the PI and other project team members in organising three workshops and an international conference hosted by the CBS in Bhutan.

In addition, the PD may be requested to contribute to any research activities and fulfil any other duties in connection to the Lo-Rig project as requested by the PI, and the tasks and responsibilities of the researcher may change as the project evolves.

The PD is expected to typically spend one month a year in Bhutan to liaise with the Bhutanese research counterparts and the PI and PhD when they are there, starting in October or November 2026.

We are looking for an enthusiastic researcher who would like to acquire further experience in computational linguistics and contribute to cutting-edge research at the TCD School of Linguistic, Speech and Communication Sciences.

### **Funding Information**

This project is funded by the European Union under the Horizon Europe research and innovation program through a European Research Council starting grant. In addition to pay, this project will also cover relevant fieldwork expenses, conference travel, and relocation expenses.

## **Person Specification**

### **Qualifications**

- The role-holder will preferably have a PhD degree in (computational) linguistics, computer science, or cognate fields to fulfil the Post Doc role requirements.
- Applicants from other backgrounds and with other qualifications (e.g. a Master's degree) will also be considered if an aptitude in the fields above can be demonstrated and the necessary criteria are fulfilled.

### **Personal attributes**

The Research Fellow shall have:

- excellent relational and interpersonal skills, including the ability to effectively engage with people of various cultural and educational backgrounds;
- the ability to work effectively in a team;
- display flexibility in working hours;
- have an understanding of and interest in the project and its goals and objectives.

### **Knowledge & Experience (Essential & Desirable)**

#### *Systems Knowledge - Essential*

- General computer literacy.
- Knowledge of one or more programming languages for the implementation and development of ASR models and supporting pipelines (Python, R, C++/C/c#, Dax) and deep learning frameworks (PyTorch, TensorFlow, Pandas, NumPy, Matplotlib, SVM, Naive Bayes, KNN, Seaborn, Keras, Scikit-learn).

#### *Systems Knowledge - Desirable*

- Knowledge of transcription and translation software (ELAN), the integration of free-standing audio and video analysis components as local extensions (recognisers) into ELAN (e.g., Voice Activity Detection models such as Voxseg-VAD and Silero-VAD, and linguistic analysis software (FLEX, PRAAT) is highly desirable.

- Knowledge of text-to-speech models (wav2vec, wav2vec2, Kaldi toolkit, Elpis, DeepSpeech, etc.) is highly desirable.
- Knowledge of audio- and video editing software (e.g. Audacity, Adobe Premiere Pro, Cyberlink), toolkits like BEAST and BEAUTi, and website design and maintenance applications (e.g. WordPress, Wix, Shopify, Dreamweaver, PHP, SQL, HTML, CSS, Javascript / Android, JAVA, React Native, Phonegap Cordova, JSON) is desirable.
- Knowledge of Database design (Oracle Forms Reports/MySQL, PL/SQL, DB Designer), data visualisation BI tools (Power BI, Tableau, MSBI, LaTeX, KPIs Reporting, REST APIs, CRMs) and Cloud tools (AWS Ecosystem, Azure, Databricks, Google Cloud, Version Control Systems (Git) is desirable.

### *Experience*

Experience in the below areas is highly desirable:

- dealing with large amounts of (multilingual) (linguistic) data, including video- and audio-recordings, and their metadata;
- data modelling, cleaning, pipeline design and visualisation;
- machine learning, NLP, corpus analysis;
- preparing drafts of academic publications and copy-editing them;
- organising and managing academic events such as workshops and conferences

### **Skills & Competencies**

The candidate shall have:

- excellent analytical skills;
- an interdisciplinary approach;
- the ability to structure and pursue an independent research project;
- a strong motivation to publish in academic journals;
- excellent written and verbal communication skills in English are required;
- good organisational skills.

### **Application Procedure**

Informal enquiries are very welcome and can be made directly to **Dr Tim Bodt** (tim.bodt@tcd.ie), Associate Professor, School of Linguistic, Speech and Communication Sciences.

To apply, candidates should submit below items via email to **Dr Tim Bodt** (tim.bodt@tcd.ie), Associate Professor, School of Linguistic, Speech and Communication Sciences. Applications must indicate exactly “*Postdoctoral Application – Lo-Rig*” in the subject line.

1. A **motivation letter/expression of interest** (max. 1–2 pages) clearly outlining your motivation, research experience, and relevant skills in relation to the project;
2. A full **curriculum vitae**;
3. The names and contact details (including email addresses) of **two referees**;
4. At least one **example of written work** (in English) that demonstrates your analytical and writing skills;
5. Official **transcripts of records** from all completed higher education degrees (e.g., Bachelor's, Master's, and PhD);
6. Proof of **sufficient English proficiency**: IELTS 6.5 overall / 6.0 in each band or TOEFL iBT 90 overall / 21 in each section;  
and, if available,
7. A portfolio of coding projects, which could also be through a link to your GitHub on your CV

**Closing date October 31, 2025 (23:00 GMT).**

#### **Further Information for Applicants**

URL Link to Area	<a href="http://www.tcd.ie">www.tcd.ie</a>
URL Link to Human Resources	<a href="https://www.tcd.ie/hr/">https://www.tcd.ie/hr/</a>

#### **Description of the endangered Mönpa language of Bhutan**

The five-year project “Lo-Rig: Lo-Rig: Biactantial agreement in the endangered Gongduk and Mönpa languages of Bhutan” is based at Trinity’s School of Linguistic, Speech and Communication Sciences (SLSCS). The Lo-Rig project will use elicited and natural speech data of two of Bhutan’s unique languages, Gongduk and Mönpa, to come up with their exhaustive

descriptive grammars. The project is funded by the European Research Council (ERC) and has a counterpart organisation in Bhutan, the Centre for Bhutan and GNH Studies (CBS). The PD will report to the Principal Investigator (PI) of the project. Other members of the project team include a PhD researcher (PhD) and a Research Assistant (RA) based in Trinity, and two Research Assistants and a Senior Researcher (SR) based in Bhutan.

Gongduk and Mönpa are two Sino-Tibetan languages of Bhutan with no known relatives within the language family. Despite their unique morphosyntactic feature of biactantial verbal agreement, both languages have been largely overlooked in the literature. Gongduk and Mönpa are also at a high risk of extinction. Therefore, it is of absolute necessity that we write their descriptive grammars, based on a natural speech corpus, before they disappear forever. Linguistic description offers science the opportunity to conduct ground-breaking typological and historical linguistic research. The exhaustive description of Gongduk and Mönpa will enable us to compare their verbal agreement systems to those of other Sino-Tibetan languages and infer the implications for the origin and development of verbal agreement and the language family as a whole. Linguistic description can also provide indigenous communities with the basic set of materials to promote their linguistic heritage and counteract negative developments associated with a loss of language, culture and identity.

Technological advances present both a risk and an opportunity for safeguarding Bhutan's unique cultural and linguistic heritage, which is one of the cornerstones of the nation's national identity and development philosophy. The PD will apply off-the-shelf and further develop innovative methods that speed up and simplify the transcription of recorded texts, using technologies such as Automatic Speech Recognition. and software applications for the subsequent analysis and dissemination of under-resourced, endangered languages. Together with the other members of the Lo-Rig team, the PD will also train Bhutanese linguists, contributing to a more sustainable future of Bhutan's languages, and produce outputs for language promotion.

### **Institutional background information**

*Trinity Centre for Asian Studies*

The Trinity Centre for Asian Studies (TCAS) acts as a focal point for Asian Studies across Trinity College Dublin. The Centre aims to promote Asian Studies both nationally and internationally, and in so doing, to be the leading knowledge centre in Ireland for scholars, for policymakers, and for business leaders. The Centre teaches Chinese, Japanese and Korean as optional credit-bearing modules for all Trinity undergraduates and postgraduates within, respectively, the Trinity Electives and the PG Languages for Employability programme. We also provide language classes for the general public via our extramural evening courses. Our flagship postgraduate programme is the intensive one year M.Phil in Chinese Studies. The M.Phil. attracts students from Ireland and across the world. Our alumni have gone on to careers in business and industry, technology, government and diplomacy, the cultural and NGO sectors, whilst others have continued their studies at doctoral level, at Trinity and other leading universities. We provide doctoral supervision in a range of subject areas.

Further information on the Centre is available at: [www.tcd.ie/Asian/](http://www.tcd.ie/Asian/)

#### *Centre for Language and Communication Studies*

The Centre for Language and Communication Studies (CLCS), founded in 1979, is a centre of research, linguistics, applied linguistics, phonetics and speech science, computational linguistics and natural language processing. We also teach the Linguistic components of many undergraduate programmes and we have five taught postgraduate programmes. CLCS is one of two departments in the School of Linguistic, Speech and Communication Sciences, the other being the department of Clinical Speech and Language Studies.

In Linguistics, we focus our research on phonetics and phonology, and linguistic interfaces in syntax, semantic and pragmatics. In Applied Linguistics we focus our research on language pedagogy and acquisition, language teaching sign language teaching and interpreting bilingualism and multilingualism and new technologies in language learning. We have specific expertise in the applied linguistics of English, Irish, Irish Sign Language and Asian Languages. In Speech and Language Processing, we focus our research and development in speech processing, text-to-speech synthesis and automatic speech recognition, and in various areas of computational linguistics and natural language processing including morphological analysis/generation and syntactic/semantic parsing.



Further information on the Centre is available at: [www.tcd.ie/slscs/centre-for-language-and-communication-studies/](http://www.tcd.ie/slscs/centre-for-language-and-communication-studies/)

### *School of Linguistic, Speech, and Communication Sciences*

We are a team of scholars who all share a passion for human language in its various facets. We foster inclusive diversity as a powerful resource through the study of linguistics, communication, speech, and swallowing. Our work benefits individuals and communities through the lifespan. The School's vision is to be an internationally recognised reference point for the scientific study of language, communication, speech and swallowing, characterised by a distinctive focus on communication diversity and inclusion. We specifically aim to:

- Foster critical curiosity about the human capacity for language and symbolic communication and critical aspects of health and well-being related to language, communication and swallowing.
- Provide a nurturing learning environment where staff and students are facilitated to achieve excellence and extend their horizons
- Work collaboratively to realise the potential of research, teaching and learning synergies, and inspire our students and graduates to continue their quest for knowledge in partnership with us
- Inform social, educational and health policy on issues related to linguistic diversity and inclusion, multilingualism, the Irish language and Irish Sign Language, as well as communication and swallowing impairment

The School of Linguistic, Speech, and Communication Sciences research and teaching includes the following: Linguistics; Applied Linguistics; Computational Linguistics; Speech Science and Phonetics; Speech and Language Pathology; Dysphagia; Deaf Studies; Irish Sign Language; English Language Teaching; Irish Language Technology; and Asian Studies.

Further information on the School is available at: [www.tcd.ie/slscs/](http://www.tcd.ie/slscs/)

**Trinity College Dublin, the University of Dublin**

Trinity is Ireland's leading university and is ranked 108th in the world (QS World University Rankings 2020). Founded in 1592, the University is steeped in history with a reputation for excellence in education, research and innovation.

Located on an iconic campus in the heart of Dublin's city centre, Trinity has 18,000 undergraduate and postgraduate students across our three faculties – Arts, Humanities, and Social Sciences; Engineering, Mathematics and Science; and Health Sciences.

Trinity is ranked as the 17th most international university in the world (Times Higher Education Rankings 2020) and has students and staff from over 120 countries.

The pursuit of excellence through research and scholarship is at the heart of a Trinity education, and our researchers have an outstanding publication record and strong record of grant success. Trinity has developed 19 broad-based multidisciplinary research themes that cut across disciplines and facilitate world-leading research and collaboration within the University and with colleagues around the world. Trinity is also home to 5 leading flagship research institutes:

- Trinity Biomedical Sciences Institute (TBSI)
- Trinity College Institute of Neuroscience (TCIN)
- Trinity Translational Medical Institute (TTMI)
- Trinity Long Room Hub Arts and Humanities Research Institute (TLRH)
- Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN)

Trinity is the top-ranked European university for producing entrepreneurs for the past five successive years and Europe's only representative in the world's top-50 universities (Pitchbook Universities Report).

Trinity is home to the famous Old Library and to the historic Book of Kells as well as other internationally significant holdings in manuscripts, maps and early printed material. The Trinity Library is a legal deposit library, granting the University the right to claim a copy of every book published in Ireland and the UK. At present, the Library's holdings span approximately 6.5 million printed items, 400,000 e-books and 150,000 e-journals.

With over 120,000 alumni, Trinity's tradition of independent intellectual inquiry has produced some of the world's finest, most original minds including the writers Oscar Wilde and Samuel Beckett (Nobel laureates), the mathematician William Rowan Hamilton and the physicist Ernest Walton (Nobel laureate), the political thinker Edmund Burke, and the former President of Ireland Mary Robinson. This tradition finds expression today in a campus culture of scholarship, innovation, creativity, entrepreneurship and dedication to societal reform.

### **Rankings**

Trinity is the top ranked university in Ireland and ranked 108th in the world (QS World University Rankings 2020). Trinity ranks in the top 50 in the world on 6 subjects and in the top 100 in 20 subjects (QS World University Rankings by Subject 2019). Full details are available at: [www.tcd.ie/research/about/rankings](http://www.tcd.ie/research/about/rankings).

## **The Selection Process in Trinity**

The Selection Committee (Interview Panel) may include members of the Academic and Administrative community together with External Assessor(s) who are expert in the area. Applications will be acknowledged by email. If you do not receive confirmation of receipt within 1 day of submitting your application online, please contact the named Recruitment Partner on the job specification immediately and prior to the closing date/time.

Given the degree of co-ordination and planning to have a Selection Committee available on the specified date, the University regrets that it may not be in a position to offer alternate selection dates. Where candidates are unavailable, reserves may be drawn from a shortlist. Outcomes of interviews are notified in writing to candidates and are issued no later than 5 working days following the selection day.

In some instances the Selection Committee may avail of telephone or video conferencing. The University's selection methods may consist of any or all of the following: Interviews, Presentations, Psychometric Testing, References and Situational Exercises.

It is the policy of the University to conduct pre-employment medical screening/full pre-employment medicals. Information supplied by candidates in their application (Cover Letter and CV) will be used to shortlist for interview.

Applications from non-EEA citizens are welcomed. However, eligibility is determined by the Department of Business, Enterprise and Innovation and further information on the Highly Skills Eligible Occupations List is set out in Schedule 3 of the Regulations <https://dbei.gov.ie/en/What-We-Do/Workplace-and-Skills/Employment-Permits/Employment-Permit-Eligibility/Highly-Skilled-Eligible-Occupations-List/> and the Ineligible Categories of Employment are set out in Schedule 4 of the Regulations <https://dbei.gov.ie/en/What-We-Do/Workplace-and-Skills/Employment-Permits/Employment-Permit-Eligibility/Ineligible-Categories-of-Employment/>. Non-EEA candidates should note that the onus is on them to secure a visa to travel to Ireland prior to interview. Non-EEA candidates should also be aware that even if successful at interview, an appointment to the post is contingent on the securing of an employment permit.

## **Equal Opportunities Policy**

Trinity is an equal opportunities employer and is committed to employment policies, procedures and practices which do not discriminate on grounds such as gender, civil status, family status, age, disability, race, religious belief, sexual orientation or membership of the travelling community. On that basis we encourage and welcome talented people from all backgrounds to join our staff community. Trinity's Diversity Statement can be viewed in full at <https://www.tcd.ie/diversity-inclusion/diversity-statement>.

## **Pension Entitlements**

This is a pensionable position and the provisions of the Public Service Superannuation (Miscellaneous Provisions) Act 2004 will apply in relation to retirement age for pension purposes. Details of the relevant Pension Scheme will be provided to the successful applicant.

Applicants should note that they will be required to complete a Pre-Employment Declaration to confirm whether or not they have previously availed of an Irish Public Service Scheme of incentivised early retirement or enhanced redundancy payment. Applicants will also be required to declare any entitlements to a Public Service pension benefit (in payment or preserved) from any other Irish Public Service employment.

Applicants formerly employed by the Irish Public Service that may previously have availed of an Irish Public Service Scheme of Incentivised early retirement or enhanced redundancy payment should ensure that they are not precluded from re-engagement in the Irish Public Service under the terms of such Schemes. Such queries should be directed to an applicant's former Irish Public Service Employer in the first instance.

## Application Procedure

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1. A motivation letter/expression of interest (max. 1–2 pages) clearly outlining your motivation, research experience, and relevant skills in relation to the project;
2. A full curriculum vitae;
3. The names and contact details (including email addresses) of two referees;
4. At least one example of written work (in English) that demonstrates your analytical and writing skills;
5. Official transcripts of records from all completed higher education degrees (e.g., Bachelor's, Master's, and PhD);
6. Proof of sufficient English proficiency: IELTS 6.5 overall / 6.0 in each band or TOEFL iBT 90 overall / 21 in each section;  
and, if available,
7. A portfolio of coding projects, which could also be through a link to your GitHub on your CV



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