PhD - Speaker Tracking in Complex Conversations.

Position:	PhD Studentship
Funding:	EU/Non-EU Fees plus tax-free stipend of €25,000 per annum for 4 years
Where:	EE Engineering, School of Engineering, Trinity College Dublin, Ireland
Supervisor	Prof Naomi Harte
Start Date	Sept 1st 2026

Background:

It is known that many modalities (e.g. articulation, mouth movements, eye gaze, head nods, back channels and gestures) play a role in communication success in speech-based interaction. Active speaker-tracking can currently exploit audio and facial movement in recorded conversations to track the active speaker. If you want to change emphasis to instead predict the next speaker in a more complex multispeaker environment, that's significantly more challenging and would benefit from exploiting more non-verbal cues, just as humans do. This PhD student will focus on approaches to tracking a conversation that incorporate knowledge around the H&H theory of speech and multimodality in human communication. By gaining deeper insights into how multimodal cues are exploited in different conversation situations, this can be leveraged into new neural architectures to intelligently follow what's happening in a conversation. This PhD research is part of a larger Research Ireland Frontiers project SpeechSpace, focussed on multimodal speech and led by Prof. Harte. The project brings together engineers and linguists working at the intersection of speech science and engineering. The funding available will cover fees and stipend, but also equipment and conference travel associated with the research.

Person Requirements:

- Primary or Master's degree in Electronic Engineering or closely related discipline, with an interest in engaging in multidisciplinary research
- Must meet TCD University requirements at https://www.tcd.ie/study/apply/admission-requirements/postgraduate/
- Strong skills in coding, machine learning, deep learning, and signal processing with the willingness and motivation to learn new skills and packages
- Prior experience with speech-based interaction desirable, but keen to learn more about it
- Excellent communication skills, both spoken and written, and fluency in English

The position

- Prof Harte's research group brings together a diverse and friendly group of people who are all interested in pursuing research in speech-related topics and like to share ideas and learn from one another. As such, this is a fully in-person position for someone who wants an in-person PhD experience and would like to contribute to our group both technically and socially.

To apply for the position, please complete the following application form: https://forms.gle/cbBJWFodqruBMpqm8

Informal inquiries only to Prof Naomi Harte at nharte@tcd.ie