Gaelic tongues: Phonetic typology and implications for sound change

In this talk I will discuss a series of studies investigating Scottish Gaelic sonorant consonants, and the implications for models of sound change (Nance & Kirkham, 2020, 2022; Kirkham & Nance, 2022). Scottish Gaelic is an endangered Celtic language with a large and unusual sonorant system contrasting palatalised, plain, and velarised laterals, nasals and rhotics i.e. /l̪ʲ l l̪ˠ n̪ʲ n n̪ˠ rʲ r rˠ/.

Here I present acoustic and ultrasound tongue imaging data from 12 Gaelic L1 speakers from the Outer Hebrides. Study 1 explores the acoustics of the contrasts in laterals and nasals, Study 2 focusses on the detail of rhotic production in terms of articulation and acoustics, and Study 3 explores the acoustic and articulatory distinctiveness of each phoneme category using machine learning. In the Discussion, I explore the ways in which speakers are able to maintain this large system despite linguistic and social pressures which might otherwise lead to sound change. Additionally, I will introduce the set of ultrasound video resources we have made based on this project: https://seeingspeech.ac.uk/gaelic-tongues/.

Kirkham, S., & Nance, C. (2022). Diachronic phonological asymmetries and the variable stability of synchronic contrast. *Journal of Phonetics*, *94*, 101–176.

Nance, C., & Kirkham, S. (2020). The acoustics of three-way lateral and nasal palatalisation contrasts in Scottish Gaelic. *Journal of the Acoustical Society of America*, *147*(4), 2858–2872.

Nance, C., & Kirkham, S. (2022). Phonetic typology and articulatory constraints: The realisation of secondary articulations in Scottish Gaelic rhotics. *Language*, *98*(3), 419–460.