Transcript: Do face coverings affect identifying voices? A small experiment using VOCALISE and PHONATE

"Hi, I'm Tom from Oxford Wave Research, and welcome to our first vlog!

"Due to the current circumstances, we're all using face masks a lot more than we used to. But do you ever get the sense that the technology hasn't quite caught up yet? Like when you try and open your phone with Face ID, and it just doesn't work, and you have to go trawling through your memory to try and find that passcode you never use. Well, we thought might test VOCALISE, our speaker recognition software, on speech spoken from behind a mask, to see how well it does.

"All eight members of the Oxford Wave team produced recordings using our PHONATE app for Android, which does speaker recognition, or SpectrumViewPlus, our iOS visualisation tool. We made six recordings each, two without a mask, two with a surgical mask, and two with a fabric covering. Here's Ekrem making his surgical mask recordings now.

"Ekrem is responding to a comic strip included in the PHONATE app as a stimulus, in a quiet, indoor environment. These are just some of the basic safeguards we put in place to ward off intervening factors, such as background noise.

"Once we had got everyone's recordings, we compared them all to each other in VOCALISE, to see if it could still tell the difference between us whilst we were wearing masks. The following example compares Finnian's fabric mask recording to all the others. You can see that the top scores are held by his recordings, and the others are much lower. We ran this comparison in PHONATE as well, to much the same results, as shown by the traffic light system and the photos. The Equal Error Rate for this system was 0% – there was no confusion between speakers. This can be seen from the scatter plot, where the blue same-speaker comparison scores are separated from the red different-speaker comparison scores by that empty band.

"So what does this all mean? Well, it seems that VOCALISE is quite robust to speech from behind a face covering – it can still tell who's who. And that's exactly what we need from speaker recognition right now, masks appear to be here to stay, at least for a little while, so if you want us to do some more research on this, just let us know.

"Thank you for tuning in, and stay safe out there!"