



## Abstract Submission - Presentation

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### Abstract

<b>Title:</b>	Evidence evaluation for forensic voice comparison		
<b>oral / poster:</b>	Poster	<b>Theme nr.:</b>	
<b>Authors: (underline presenting author)</b>	Tereza Neocleous <sup>1</sup> , Colin Aitken <sup>2</sup> , and Peter French <sup>3</sup> , Paul Foulkes <sup>3</sup> , Erica Gold <sup>3</sup> and Vincent Hughes <sup>3</sup>		
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<b>Abstract: (300-400 words)</b>	<p>In forensic voice comparison, experts are presented with recordings of a criminal (e.g. threatening phone calls) and recordings of a suspect (e.g. police interview). They are asked to assess the possibility that the recordings contain the voice of the same person. A ‘paradigm shift’ is underway in forensic science, with moves to express expert conclusions in the form of likelihood ratios (LRs). The LR is increasingly accepted by forensic scientists as the logically and legally correct framework for assessing forensic evidence, and is used for many evidence types, including DNA and chemometrics</p> <p>Where several features are analysed (as with speech: vowels, consonants, pitch, etc) results can be combined into an overall LR. Speech is a particularly complex biometric, as vocal features are highly variable within any individual (they are affected by illness, style, emotions, etc), and they affect each other in diverse ways (e.g. pitch may affect vowel acoustics). Current applications of LRs to voice evidence, however, generally fail to account for the complexity and inter-relatedness of features. Voice evidence in the form of an LR therefore tends either to focus on a small subset of continuous, acoustic features (potentially overlooking other discriminatory features), or to ignore the inter-relatedness of the features and thus present a potentially misleading overall LR. See [1] for an example with discrete data.</p> <p>Current developments arising from a collaboration between statisticians in the Universities of Glasgow and Edinburgh and forensic phoneticians in the University of York will be described.</p>		

<b>References:</b>	1. Aitken,C.G.G and Gold,E. (2013) Evidence evaluation for discrete data. <i>Forensic Science International</i> 230, 147-155.
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