

Prikaz

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26<sup>th</sup> annual conference of the International Association for Forensic Phonetics and Acoustics (IAFPA). Split, Croatia, 9<sup>th</sup> – 12<sup>th</sup> July 2017

**1. INTRODUCTION**

I am delighted to have been asked to review the 26<sup>th</sup> annual IAFPA conference, held from 9<sup>th</sup> – 12<sup>th</sup> July 2017 in Split, on Croatia's spectacular Dalmatian coastline. IAFPA's annual conference always provides a unique opportunity for meeting one's peers and colleagues from across the world, and the warmth and generosity of our Croatian hosts permeated the discussions and debates that were sparked by a catholic and progressive scientific program. IAFPA conferences have always promoted student development and research, and the quality of presentations from post-graduate, doctorate, and early-career researchers demonstrated the bright future of our field. Of course, I cannot summarise the conference without making reference to the natural beauty of the Dalmatian coast, and the historical milieu of Split's city centre; I am completely convinced that while most attendees left feeling wiser and better-informed, what they will remember is the evening sun reflecting from the sea's still surface, the easy confidence of the local cuisine, and the atmosphere of welcome and good humour.

**2. IAFPA**

To briefly offer some context, the International Association for Forensic Phonetics and Acoustics – 'IAFPA' – is the professional association for forensic speech scientists who analyse voices, speech and audio recordings for evidence, security and intelligence applications. It is a worldwide network of researchers, practitioners and students whose shared goal is to improve the practice of forensic speech science by sharing

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knowledge and best practice, and helping one another to develop skills, knowledge, and new techniques and frameworks for analysing speech.

IAFPA was formally established in York, UK, in 1991, styled as 'The International Association for Forensic Phonetics' (IAFP). Since then, IAFP has grown to over 120 members worldwide, with expertise spanning both forensic phonetics and acoustics (hence the addition of the latter 'A' to IAFPA). A major element of its mission is to foster research and provide a forum for the interchange of ideas and information, and the main mechanism for achieving this goal is an annual conference. Having celebrated the 25<sup>th</sup> 'silver' anniversary of the formation of IAFPA in a special conference in York, the organisation was delighted to receive an offer from researchers at Zagreb and Split Universities to host the conference in Croatia for the first time in IAFPA's history.

### 3. SCIENTIFIC PROGRAMME

The conference, held at the formidable Three Faculty Building, was opened on Monday morning with addresses from senior university figures, after which Professor Gordana Varošaneć-Škarić formally opened the scientific program with a memorable prefatory speech.

The tone for the conference was appropriately set by a range of talks about carrying out or interpreting forensic speaker comparison analyses which were illustrated using real cases. The conference's first paper, given by IAFPA President Professor Peter French (working with colleagues), attempted to 'open the blinds' on laboratory practices by giving an insight into what types of methods are used to analyse different speech parameters by Professor French and colleagues at his laboratory (J P French Associates), and how these are combined to assess the strength of voice comparison evidence. Isolde Wagner similarly illustrated the *Bundeskriminalamt's* (BKA: German Federal Criminal Police) method for speaker comparison, using example cases to reveal how methods are selected according to the peculiarities of each case. Jos Vermeulen and Tina Cambier-Langeveld discussed the types of features which typically lead to very strong conclusions from the *Netherlands Forensic Institute* (NFI) case files. A later paper by Zhang and colleagues, presented by Geoffrey Stewart Morrison, focussed on how different numerical interpretations of the Likelihood-Ratio approach can be used to establish strength of evidence, based on real case data from a Chinese case concerning sisters.

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There were presentations on analytical and inferential procedures from members of the *Voxalys* cluster, such as those designed to avoid bias (presented by Maria Sundqvist) and on the comparison of performance of human perceptual methods with an ASR system (by Jonas Lindh). In these talks, they presented work carried out as a response to the increasing demands for accreditation and validation of methods incorporating 'human' and 'machine' analysis methods. I presented a paper, with colleagues at York, considering how we should generate propositions for forensic speaker comparisons, which parts of the interpretation should be within the expert realm, and whether the questions we answer in casework are those which the court is really asking. Jessica Wormald and Vincent Hughes used a poster presentation to debate whether the forensic and socio-phonetic communities could make better use of the internet, creating online repositories for speech recordings and descriptions of linguistic varieties. The procedure talks weren't just limited to voice comparison, however: Helen Fraser laid down ideal procedures for forensic transcription as part of her long-running focus on the best way to transcribe and present difficult audio material.

The audience heard from other wide-ranging projects developing methods to analyse different speech parameters. PhD researchers from Zurich, with Volker Dellwo, reported on progress in their specialised field of using intensity and rhythmic measures in shouted and normal speech. Lei He presented innovative methods for capturing intensity dynamics in signals with different bandwidths and Kostis Dimos presented on rhythmic speaker variability in shouted speech. The audience was also grateful to Damir Kovačić for his keynote talk on the fascinating field of gender identification in cochlear implant users. Erica Gold, Sula Ross and Kate Earnshaw from the University of Huddersfield introduced their new *WYRED* project to IAFPA, and examined the regional specificity of hesitation markers – 'er' and 'erm'. Members of the *Voice and Identity: Source, Filter, Biometric* project group at the University of York presented their latest results on the complementarity of automatic, semi-automatic, and phonetic measures of vocal tract output, with Vincent Hughes demonstrating the advantages of combining different types of analysis identifying DyViS speakers.

A range of other papers addressed automatic analysis methods. Two papers from the *Oxford Wave Research* group gave insight into further uses of ASR systems, beyond comparing voices. Anil Alexander demonstrated automatic diarization and separation of different speakers in realistic conditions. Finnian Kelly posed the question: 'What

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*does your voice say about you?* – exploring what properties can be profiled from a speech signal using an i-vector engine. Georgina Brown from York (with Dominic Watt) further evinced the abilities of an automatic system to detect accents, and how feature selection can improve or inhibit performance. A further poster presentation by Georgina Brown (with Megan Jenkins) compared the performance of this automatic system with human listeners, as part of a student research project. Nadia Tschäpe and colleagues from the BKA revealed the effects of dialect differences on the performance of an i-vector system.

There were also papers which dealt with the more fine-grained aspects of forensic phonetic analysis. Presenting a paper authored with Kieran Dorreen, Vica Papp highlighted the limitations of Praat's pitch measurement function, and the need for  $f_0$  analyses to consider the interaction between modal phonation and creak and metrics relating to resulting bimodal  $f_0$  distributions. Radek Skarnitzl and Alžběta Růžičková examined different methods of voice disguise; in particular, how adopting multiple types of disguise can produce a more sophisticated obfuscation of the natural speaking voice. Willemijn Heeren discussed the speaker-specific qualities of /s/, while Kirsty McDougall and Martin Duckworth introduced a formal taxonomy for assessing disfluencies – 'TOFFA' – in a poster presentation. Katharina Klug gave a poster presentation aimed at refining the vocal profile analysis (VPA) schema for voice quality analysis.

There was a significant contribution from a range of students at the 2017 conference. A special mention must be reserved for the talk by Elliott Land; Elliott was the winner of the student prize for his talk (with Erica Gold) on familiar speaker recognition using laughter (in what was a suitably amusing presentation). In winning the prize – which was voted for by the conference attendees – Elliott was closely followed by Thayabaran Kathiresan (with Volker Dellwo) for his talk on emotion and speaker recognition using cepstral dynamics, and Zdravka Biočina, for her talk concerning variation on the local island of Brač, which was a natural and fitting end to a conference in Split.

In my view, the selection of papers represented an impeccably balanced programme, considering the focussed nuances of analysis and interpretative methods, but also the broader issues in the field. Conclusions were drawn from big and small data, and ideas were generated from casework, thought experiments and logical argument. There was a tangible focus on the challenge that IAFPA members face in the wake of increasing demands for accreditation and validation. It was also clear that

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there was a level of mutual respect and consideration, as well as genuine interest, in the range of questions and comments from the audience; thus continuing the tradition for IAFPA conferences to provide a constructive and fair environment for mature debate.

#### **4. SOCIAL EVENTS; ATMOSPHERE; VENUE**

On Sunday evening, guests were wowed by the dramatic splendour of the Croatian National Theatre, and treated to an array of drinks and canapes. While a cohort of attendees also attended the Meštrović Gallery on Monday for a guided tour, most simply enjoyed sauntering through Split's old Town and visiting some of the key landmarks: the Diocletian Palace and Peristyle Square, Vestibul, Cathedral of St. Dujice (Saint Domnius), and Jupiter's temple, for example. Others partook of the varied and vibrant nightlife.

The highlight for me, and many other guests at the conference, was the conference dinner at Lovrečina beach. A sunset boat trip across the short stretch of the Adriatic to the island of Brač was the perfect aperitif to a lively evening of local cuisine and music; a perfect marriage of food, music, local libations and dancing (we all succumbed to over-indulging in some or all of the above).

#### **5. SUMMARISING COMMENTS**

I believe I have made my admiration for this conference clear. To me, it is a clear sign of a successful conference that IAFPA has been inundated with application requests from attendees who have applied at or closely following the conference; this illustrates how impressed those attending were with the conference and, by extension, the association. I hope that next year's conference in Huddersfield can show the same level of warmth and a similar range of engaging scientific content; as an adopted son of Yorkshire, I am optimistic that we can deliver a conference that compares with the 2017 event. On behalf of IAFPA, I would like to extend my greatest thanks to the organisers for arranging such a successful conference: Anita Runjić-Stoilova, Tina Cambier-Langeveld, Gordana Varošaneć-Škarić, Zdravka Biočina and Jelena Novaković.

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**BIO NOTE**

*About the author:* Dr Richard Rhodes is a forensic consultant at J P French Associates, Forensic Speech and Acoustics Laboratory in York, UK. He acts as an expert witness in primarily criminal proceedings in court and produces reports concerning speaker comparison, transcription, questioned content analysis, and other types of forensic phonetic casework. He is an Associate Lecturer in the Department of Language and Linguistic Science at the University of York. He is also an executive committee member of IAFPA and has attended each IAFPA conference since 2009.

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