



international speech  
communication association

promoting international speech communication, science and technology

# Distinguished Lecturer 2014-15

## Prof. Roger K. Moore

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### Introduction

The International Speech Communication Association (ISCA) commenced its Distinguished Lecturer (DL) programme in 2006. The aim of the scheme is to send DLs to different parts of the world to promote research activities in speech science and technology through a series of lectures. Each year, two DLs are selected by ISCA (based on nominated candidates) for a two-year period during which they are expected to commit to at least two lecture tours in regions identified as under-represented in ISCA programs (for example, China, India, Eastern Europe, Latin America, South/West Asia and Africa).

The arrangement is that ISCA covers the costs of international travel, and the local hosts are responsible for organising and funding the local arrangements (including accommodation and meals).

In March 2014, I was appointed ISCA DL for 2014-15 and, after a period of consultation with various parties (particularly at InterSpeech-2014 held in Singapore), I agreed to give lecture tours in India, Puerto Rico and China.

Each of my lectures was preceded by a short explanation of the aims and activities of ISCA, including ISCA's DL programme ...



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- Started in 1999 by combining ...
  - ESCA (*European Speech Communication Association*)
  - ICSLP (*International Conference of Spoken Language Processing*)
- Purpose:
  - to promote Speech Communication Science and Technology, both in the industrial and academic areas
  - covering all the aspects of Speech Communication (*acoustics, phonetics, phonology, linguistics, natural language processing, artificial intelligence, cognitive science, signal processing, pattern recognition, etc.*)
- ISCA offers a wide range of services ...
  - INTERSPEECH conference
  - ISCA workshops
  - SIGs (*special interest groups*)
  - Distinguished Lectures

 The University of Sheffield

<http://www.isca-speech.org>

Shanghai, China      4<sup>th</sup> August 2015      side 1      

## India

The lecture tour in India took place in December 2014 after receiving a formal invitation from Prof. S. R. Mahadeva Prasanna of IIT Guwahati. The visit entailed giving lectures in three different locations: IIT Guwahati (10<sup>th</sup> December), IIIT Hyderabad (13<sup>th</sup> December) and IISc Bangalore (15<sup>th</sup> December). The talk at IIIT Hyderabad was incorporated into the programme of the WISP-2014 *Workshop on Image and Speech Processing* which drew attendees from all over India.



The **Indian Institute of Technology, Guwahati** (IIT-G) is a public university located on the northern bank of the Brahmaputra river in the Assam region of India. It was established in 1994 and covers the major disciplines in engineering, science and the humanities (<http://www.iitg.ac.in>). The host for my visit was Prof. S. R. Mahadeva Prasanna from the Department of Electronics & Electrical Engineering. I was also assigned a PhD student guide – Mr. Rohan Kumar Das – who did a fantastic job looking after my personal arrangements (including meeting me at the airport after a 24hr journey involving three flights!). My lecture - *“Beyond Siri: Towards the Next Generation of Talking and Listening Machines”* - was presented to around 40 staff and students, and was followed by a Q&A session on the future of speech technology.





My "Beyond Siri" lecture getting underway at IIT Guwahati.



The **International Institute of Information Technology, Hyderabad** (IIIT-H) is an autonomous not-for-profit public private partnership university that was set up in 1998 to focus on the core areas of Information Technology, such as Computer Science, Electronics and Communications (<https://www.iiit.ac.in>). The host for my visit was Prof. B. Yegnanarayana from the Language Technologies Research Centre (<http://lrc.iiit.ac.in>). I was again assigned a very helpful PhD student guide – Mr. Gautam Varma Mantena. My lecture - *"On Speaker-Listener-Environment Coupling: Implications for Computational Models of Spoken Language"* - was incorporated into the programme of the WISP-2014 workshop, and thus had an audience of ~150 people.



Yegna asking a tricky question after my lecture at IIIT Hyderabad.

The **Indian Institute of Science, Bangalore** (IISc-B) is a public university founded in 1909 and is “the premier institute for advanced scientific and technological research and education in India” (<http://www.iisc.ernet.in>). The host for my visit was Dr. Chandru from the Department of Electrical Engineering. I had an opportunity to discuss the research being conducted by a number of PhD students, and my talk - “*Beyond Siri: Towards the Next Generation of Talking and Listening Machines*” - was co-organised by the Department and the Bangalore Chapter of the IEEE Signal Processing Society.



## Puerto Rico

The visit to Puerto Rico took place January 2015 after receiving a formal invitation from Prof. Othoniel Rodriguez Jimenez, Head of the Electrical & Computer Engineering and Computer Science Department at the Polytechnic University of Puerto Rico in San Juan. Prof. Rodriguez and his colleague - Dr. Alfredo Cruz - looked after me for the entire week, which entailed giving a total of five lectures in three different universities: the University of Puerto Rico Mayaguez (<http://www.uprm.edu/portada/>), the Polytechnic University of Puerto Rico in San Juan (<http://www.pupr.edu>) and Turabo University (<http://ut.suagm.edu>).



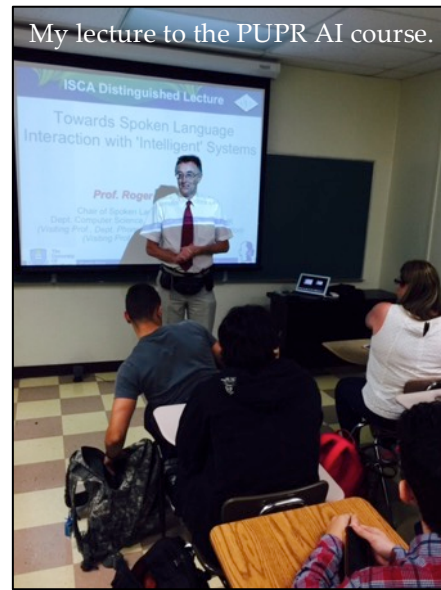
The **Polytechnic University of Puerto Rico (PUPR)** is a private non-profit institution specializing in Engineering, Architecture, Land Surveying and Geomatics, and Business Administration. Established in 1966, it has a population of around 6000 students.

I delivered three lectures at PUPR: *“Beyond Siri: Towards the Next Generation of Talking and Listening Machines”* (28<sup>th</sup> January), *“Towards Spoken Language Interaction with ‘Intelligent’ Systems: Where are we, and What should we do next?”* (29<sup>th</sup> January) and *“Speech technology: How it works (and why it sometimes doesn’t!)”* (also 29<sup>th</sup> January). A good number of students attended each talk, especially *“Towards Spoken Language Interaction ...”* which was a 2hr lecture to an undergraduate class as part of their course in Artificial Intelligence. The second lecture on 29<sup>th</sup> January was a special request by Dr. Cuauhtemoc Godoy to provide an introductory tutorial for his Doctoral Students.





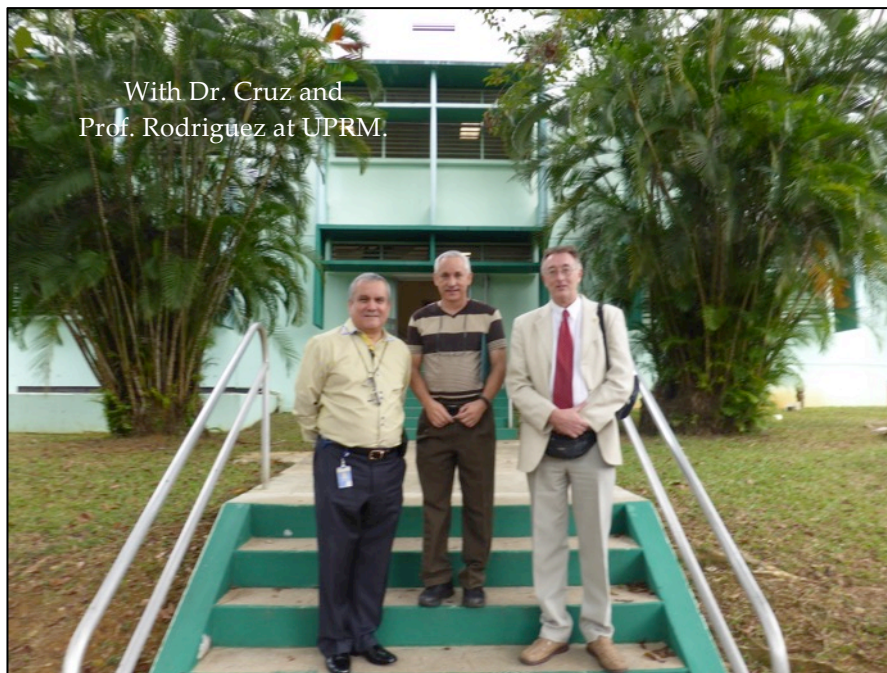
Dr. Alfredo Cruz and  
Prof. Othoniel Rodriguez.



My lecture to the PUPR AI course.

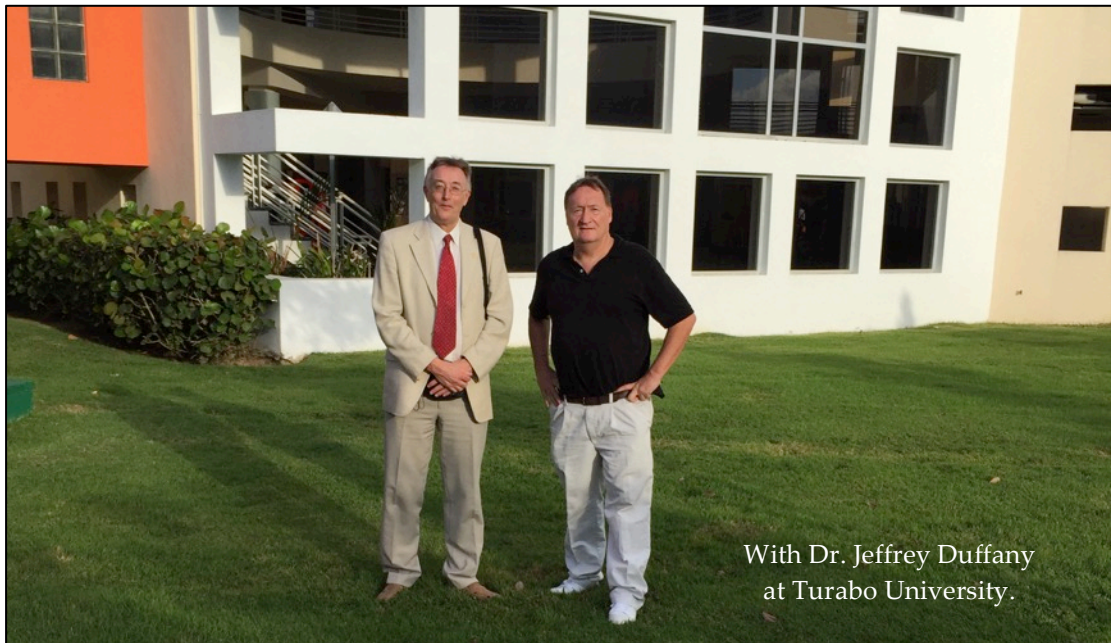


On the 27<sup>th</sup> January I gave my “*Beyond Siri ...*” lecture in the Electrical & Computer Engineering Department at the **University of Puerto Rico Mayaguez (UPRM)**. Located at the western end of the island, UPRM was established in 1911 and is the second-largest public university campus in the University of Puerto Rico system with about 12,000 students. Hosted by Prof. Nestor Rodriguez and Prof. Domingo Rodriguez, the talk attracted over 50 attendees and was followed by a very productive Q&A session.



With Dr. Cruz and  
Prof. Rodriguez at UPRM.

On 28<sup>th</sup> January, I gave my “*Beyond Siri ...*” lecture at **Turabo University**: a private university with around 16,000 students established in 1972 and located in the municipality of Gurabo a short distance from San Juan. My visit was hosted by Dr. Jeffrey Duffany, and my talk was very well attended. I also enjoyed extensive discussions with a number of enthusiastic students following the lecture.



With Dr. Jeffrey Duffany  
at Turabo University.

## China

My visit to China took place in August 2015 and was the result of an initiative by Prof. HonWei Ding (Dresden/Shanghai). The main local organiser was Dr. Fengchao Zhen from Shanghai Jiao Tong University (SJTU), and the visit was supported by Prof. Yueguo Gu (Head of the Applied Linguistics Department at the Chinese Academy of Social Sciences in Beijing). Whilst in Shanghai, I delivered a 3hr tutorial and two research talks, and I was given tremendous local help by Masters student Xu Can.

**Shanghai Jiao Tong University** (<http://en.sjtu.edu.cn>) is one of the oldest and most prestigious universities in China. Established in 1896 by an imperial edict issued by the Guangxu Emperor, the university has a student population of 17,000 undergraduates and 25,000 postgraduates.



On arrival in Shanghai, I took the opportunity to visit Prof. Kai Yu at the SJTU Speech Lab (<http://speechlab.sjtu.edu.cn/node/7>) in the Department of Computer Science and Engineering. Prof. Yu explained the breadth of speech technology R&D in China, and introduced a number of impressive commercial initiatives with which he was involved.



With Prof. Kai Yu (& Alan Turing) outside the Computer Science Department at SJTU.

On 2<sup>nd</sup> August I delivered a 3hr tutorial on “*Progress & Prospects in Spoken Language Processing*” at the *Summer School on Corpus Linguistics* being hosted at SJTU from 27<sup>th</sup> July to 4<sup>th</sup> August. Around 50 attendees were present (from all over China) and my talk was very well received, with some interesting questions being put forward by the audience at the end.





Introducing ISCA at the start of my 3hr lecture to the SJTU Summer School on Corpus linguistics



On 4<sup>th</sup> August Xu Can organised to take me to the centre of Shanghai to visit the local office for the company **iFLYTEK** (<http://www.iflytek.com/en/>) where they are developing multilingual speech synthesis for a range of Asian languages. After receiving presentations on the work they are doing, and hearing that they had just received news that they had come top in the Blizzard speech synthesis challenge, I gave a short technical talk on “*Reactive Speech Synthesis*”.



The staff at iFLYTEK in Shanghai.

For my final duty as ISCA-DL, on 5<sup>th</sup> August I presented a research paper on *“On Speaker-Listener-Environment Coupling: Implications for Computational Models of Spoken Language”* as part of a Research Symposium at SJTU. Most of the attendees had stayed on from the Summer School.



## Final Remarks

On each of my ISCA-DL visits I had the pleasure of being looked after by student helpers or academic colleagues. This eased the difficulties of travelling in a foreign land considerably, and also allowed me to take in some of the sights. I'm particularly grateful to **Rohan** in Guwahati, **Gautam** in Hyderabad, **Neeraj** (and others who's names I didn't catch) in Bangalore, **Othoniel** & **Alfredo** in Puerto Rico and **Xu Can** in Shanghai. Without the selfless donation of (in some cases) large amounts of their personal time by all these individuals, my lecture tours would have been significantly less enjoyable and productive. Thank you all!



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