

**CV**  
**OF PROFESSOR GEORGE CARAYANNIS**

George Carayannis is a Professor at the Computer Science Division of the National Technical University of Athens (NTUA-Department of Electrical Engineering) since 1984.

He received the Diploma in Electrical Engineering from the NTUA in 1969, and the French DEA degrees in Nuclear Reactor Physics and Computer Science from the University of Paris, 1970 and 1971 respectively. He obtained the French Docteur-Ingenieur degree in Computer Science from the University of Paris in 1973 and the Docteur es Sciences degree in Physics from Orsay University in 1978.

He was with the Ecole Nationale Supérieure des Telecommunications in Paris from 1971 to 1974 and with the Brussels Free University from 1974 to 1978. From 1978 to 1980 he was working for the Research center of National Defense in Athens as project leader developing speech processing technology. From 1981 to 1983 he was working for the Council of Europe as Secretary of the European Joint Committee for Scientific Co-operation, a committee of the Parliamentary Assembly of the Council of Europe.

He was a member of the ESPRIT and IT & C Management Committees for two years period (1990-1992). He was a member of the Language Engineering Working Party of the Telematics Management Committee and an expert of the INFO2000 / MLIS Committee for language technology issues. He made the Greek national report on educational matters to the UNESCO 28<sup>th</sup> Conference in October 1995. He was the Greek national delegate in the Task Force on multimedia and made the Greek national report. He has been the coordinator of many projects both national and European related to language processing and speech processing. He is experienced in the evaluation of research projects and programs of European Union (ESPRIT, TIDE, DELTA, etc...)

He was the leader of the greek research group which was involved in the machine translation project EUROTRA. He has been the Director of the Institute of Language and Speech Processing since its creation in May of 1992 until July 2009. He was President of the Board and Director of the Research Center Athena between April of 2005 and April of 2010. He has been the President of the Greek Pedagogical Institute between August 1995 and December 1996.

He was advisor at the Ministry of Presidency on the introduction of new technologies in the Public Sector (1994). At the same Ministry, he was involved with subjects of simplification of procedures at the contact points of the state with the citizens (1995). He has taken part in the design of the MIS for the structural funds and he was the president of the specialized committee of the Ministry of Economy (1997). He wrote the Greek Position paper about Educational subjects at the 28<sup>th</sup> conference of UNESCO in October of 1995. He was Representative of Greece in the special Committee of European Union related to multimedia and he has written the Greek National Report. He was a member of the Board of EDET from 1999 until August of 2003.

His present research interests include Digital Signal Processing (DSP), Computational Complexity and Fast Algorithms in DSP, Speech Analysis and Synthesis, Biological Signal Processing, Image and Speech recognition, Multimedia information systems. Linguistic Processing and Educational Technologies. He has published over 250 research papers related to these topics. He is involved in the design of educational technology products mainly for language teaching as well as in the design of language & speech technology products.

Professor Carayannis teaches three courses related to signal and system theory, digital signal processing and pattern recognition. He was an instructor of the CEI-Europe/Elsevier giving specialized courses for the European industry on fast algorithms for adaptive signal processing. He has supervised about 35 Ph.D. theses on pattern recognition and signal processing.

Dr. Carayannis is a member of the Technical Chamber of Greece, the IEEE and EURASIP. He was during many years a member of the Editorial Board of the European Technical Journal "Signal Processing". He is a founding member of the Greek "technology assessment" association (1995). He is also a founding member of the European Language Resources Association (1995).

#### Selected Publications:

- *Discriminating the Registers and styles in the Modern Greek Language – Part I: Diglossia in Stylistic Analysis*, Literary and Linguistic Computing, Vol. 19, No 2, 2004, p.p.197-220 (with Tambouratzis,G; Markantonatou,S; Hairetakis,N; and Vassiliou,M).
- *Applying the Som Model to text classification according to register and stylistic content*, International Journal of Neural Systems, Vol. 13, No 1, 2003 , p.p. 1-11 (with Tambouratzis,G; Markantonatou,S; and Hairetakis,N).
- *Design and implementation of mini-Webs for Educational Uses*, 2001 Symposium on Applications and the Internet Workshops, San Diego, California 2001, p.p 33-38 (with Hatzigeorgiu N and Antoniou-Kritikou, I).
- *A multimedia Storyboard as an Object and as a Starting Point for Language Learning*, Eden 10th Anniversary Conference, Stockholm, Sweden 2001 p.p. 313-318 ( with Antoniou-Kritikou, I and Katsourou, B).
- *Speech Tools in the Educational Process*’, Proceedings of the 4 th European Conference on Noise Control, EURONOISE 2001, Vol. II , p.p. 754-757 Patra, Greece 14-17 January 2001 (G. Stainhaouer, S. Bakamidis, and F. Charalabopoulou,).
- *Word length, word frequencies and Zipf’s law in the Greek language* Journal of Quantitative Linguistics, Vol. 8, 2001 , p.p. 175-185 (with Hatzigeorgiu N and Mikros,G).
- *Studying the factors affecting the optimal unit selection algorithm for a TTS System for the Greek Language*, 4th European Conference on Noise Control EURONOISE 2001, Patra 14-17/01/2001 (Founda, M., Tambouratzis, G., Chalamandaris, A).
- *Reducing Spectral Mismatches in Concatenative Speech Synthesis via Systematic Database Enrichment*, 7th European Conference on Speech Communication and Technology – Proceedings Vol. 2 Demark 09/2001, (Founda, M., Tambouratzis, G., and Chalamandaris, A).
- *Automatic Corpora – based Stemming in Greek*, Literary and Linguistic Computing, Vol.16, No 4, 2001 p.p. 445-466 (with Tambouratzis,G).
- *Automatic Style Categorisation of Corpora in the Greek Language*, Second International Conference on Language Resources and Evaluation, Proceedings, Vol. I, Athens 31/5 – 2/6 2000 (with Tambouratzis,G; Markantonatou,S; and Hairetakis,N).
- *An Optical Notation Recognition System for Printed Music based on template matching and high level reasoning*, Conference RIAO 2000 on Content – Based Multimedia, Informatics & Acoustics Paris 12-14/04/2000 (Fotinea S-E., Giakoupis G., Liveris A., and Bakamidis S).

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- “*Discriminating the registers and styles in the Modern Greek language*”, Proceedings of the ACL Workshop “Comparing Corpora”, ACL, October 2000, Hong Kong University of Science and Technology (with Tambouratzis,G; Markantonatou,S; Hairetakis,N; Vassiliou,M and Tambouratzis,D).
- “*Towards Memory and Template Based Translation Synthesis*”, Proceedings of the MT 2000: Machine Translation and Multilingual Applications in the New Millennium, Exeter, United Kingdom, 20-22 November 2000, p.p.1.1-1.8 (with Malavazos, C and Piperidis,S ).
- “*Order determination and optimum harmonic reconstruction of quasi-periodic signals in noise*”, Signal Processing Journal - Elsevier Holland 2000 (with Malliopoulos,C and Bakamidis, SG).
- “*Educational Knowledge Network: A Framework for Educational Web Database Applications*” , Proceedings of the IASTED International Conference on Software Engineering and Applications (SEA 2000), Nov. 2000 (with Hatzigeorgiu N.).
- “*Optical Notation Recognition for Printed Music Algorithms*”, Proceedings of the "Content-Based Multimedia Information Access" conference, RIAO 2000, Vol.2, pp.1006-1014, April 12-14, 2000, Paris, France (Fotinea S-E., Giakoupis G., Liveris A., and Bakamidis S.).
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- “*Order determination and optimum harmonic reconstruction of quasi-periodic signals in noise*”, Signal Processing vol. 79, 1999, p.p. 161-173 (with Malliopoulos,C and Bakamidis, SG ).
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- “*The “ILSPeak” Formant Synthesizer: Excitation and Filter Considerations for the Greek Language*”, Proceedings of the 3rd ESCA/COCOSDA Intl. Workshop on Speech Synthesis, Nov. 27-29, Jenolan Caves, Australia, 1998, (with Raptis,S and Malliopoulos,C).
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- “*A Speech Synthesis Agent for the Visually Impaired Persons*”, Proceedings of the 3rd ESCA/COCOSDA Intl. Workshop on Speech Synthesis, Nov. 27-29, Jenolan Caves, Australia, 1998, (with Raptis,S and Malliopoulos,C & Bakamidis, SG).

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- “*Modeling Arbitrarily Long Sentence-Spanning F0 Contours by Parametric Concatenation of Word-Spanning Patterns*”, Proceedings Eurospeech’97, Rhodes, Greece 1997, (with Vlahakis M., and Fotinea S-E).

- “*Fuzzy Logic for Rule-Based Formant Speech Synthesis*” , Proceedings Eurospeech’97, Rhodes, Greece (1997), (with Raptis, S).

- “*Signal Decomposition in terms of non-orthogonal sinusoidal bases*”, Signal Processing International Journal, Vol. 51, 1996, p.p. 79-91, (with Dologlou,I & Bakamidis, SG).

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