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## PROFESSOR ALAN F. SMEATON, PH.D., M.Sc., F.I.C.S.

### BRIEF BIOGRAPHY AS OF FEBRUARY 2007

Since 1997 Alan Smeaton has been a Professor of Computing at Dublin City University. Prior to that he was a Senior Lecturer and before that he was a Lecturer at DCU. He joined DCU (then NIHED) in 1987 having completed his PhD in UCD under the supervision of Prof. Keith van Rijsbergen. He also completed an M.Sc. and B.Sc. at UCD.

In 1994 Alan Smeaton was the chair of the 17th ACM SIGIR Conference which he hosted in Dublin (270 delegates), and in 2001 he hosted an NSF-DELOS Workshop on Personalization and Recommender Systems, also in Dublin (40 delegates). In earlier days (1989) he hosted the second conference on AI and Cognitive Sciences in DCU (90 delegates), he was program co-chair of the ACM SIGIR Conference in Toronto in 2003 and general chair of the Conference on Image and Video Retrieval (CIVR) which he hosted in Dublin in 2004 (130 delegates). In 2005 he hosted the European Summer School in Information Retrieval in Dublin with 100 PhD students attending. Also in 2005 he was program co-chair of the International Conference on Multimedia and Expo in Amsterdam (with over 850 papers submitted).



He has published over 200 book chapters, journal and refereed conference papers as well as dozens of other presentations, seminars and posters. He was an Associate Editor of the ACM Transactions on Information Systems for 8 years, a member of the editorial board of the Journal of Document and Text Management, and is presently a member of the Editorial Boards of Information Retrieval, Information Processing and Management, Foundations and Trends in Information Retrieval, the Journal on Digital Libraries and the ACM Journal on Computers and Cultural Heritage. Since 1989 he has served on a total of 129 separate program committees for conferences or international workshops, 66 of them since the start of 2003 (17 PCs in 2006 alone). Finally, he has also refereed papers for 27 different journals, many of them on numerous occasions, and in a range of disciplines.

Alan has graduated nearly thirty M.Sc. and PhD research students since 1991. He has acted as examiner for PhD theses on 27 occasions from the Universities of Glasgow (four times), Sheffield, Ulster (twice), Sunderland, Trinity College Dublin (three times), RMIT Melbourne (twice), Tampere (Finland), Oulu (Finland), ETH Zurich, City University London (twice), Southampton, Loughborough, Imperial College London, Universite Joseph Fourier (Grenoble) (twice), Robert Gordon University (Aberdeen), Surrey, Twente (NL) and the Australian National University. He has assisted the European Commission since 1990 in dozens of advisory and consultative roles, both as an evaluator or reviewer of project proposals and as a reviewer of ongoing projects. In fact his full CV lists 30 separate missions in which he reviews either on-going projects, project proposals, or proposals for research programmes for the European Commission in programmes such as ESPRIT, LRE, Language Engineering, Information Engineering, MLAP, LTR, INCO-Copernicus and IST FP5 and FP6.

In addition to reviewing and evaluation for the European Commission, Alan has also carried out reviews for the EPSRC (UK), Enterprise Ireland, Science Foundation Ireland, the Australian Research Council, the Austrian Science Foundation, the Swiss National Science Foundation, the Netherlands Organisation for Scientific Research, the Nuffield Foundation, the National Science Foundation (US), the University Grants Committee of Hong Kong, the Irish Research Council for Science Engineering and Technology, the Arts and Humanities Research Board (UK) and the Council of Directors of Irish Institutes of Technology, all within the last four years alone.

Alan Smeaton is a member of the ACM and the IEEE Computer Society and is a Fellow of the Irish Computer Society.

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## RESEARCH INTERESTS

Alan's early research interests covered the application of natural language processing techniques to (text) information retrieval but this then broadened to cover the indexing and content-based retrieval of information in all media, text, image, audio and especially digital video and now the focus of his work is in information access for all kinds of human digital memory applications. His major research funding is in the area of information analysis and access, particularly for digital video, and he has also received funding for research into digital libraries, music IR and in web searching.

His own research has received funding from the European Union under the ESPRIT, LTR, Information Engineering, Language Engineering, VALUE, Libraries, FP5 and FP6 programmes as well as from national funding agencies (National Software Directorate, Forbairt/Enterprise Ireland Informatics Programme and Science Foundation Ireland) and from industry. With colleagues from the Centre for Digital Video Processing, he currently holds research grants from Science Foundation Ireland (as PI for an SFI Investigator award), the EU FP6 K-Space Network of Excellence, the EU FP6 Integrated Project aceMedia, the EU FP6 project MultiMatch, an Enterprise Ireland Basic Research Grant (GenIRL project with Dr. Stephen Blott), as well as direct sponsorship and funding from Microsoft Research (Redmond).

With colleagues from University of Massachusetts and from State University of New York Buffalo he is in direct receipt of funding from Google (Mountain View, Calif.) and with colleagues from DCU he has further research funding from EOARD (US) and from Samsung (Korea). Most of this work is in the area of analysis, indexing, searching, browsing and summarisation of information of all kinds.

Most of Alan's research is carried out within the framework of the Adaptive Information Cluster, and varies from key distribution on low-power sensor network nodes, to personality profiling and collaborative searching, and from efficient file structure design for large-scale information retrieval to developing techniques for managing up to a million images a year from a video diary.

## HONOURS/AWARDS

Alan has received best paper awards for papers at STAIRS2002 Lyon, France, and IMVIP1998. In 2002 he was awarded the DCU President's award for "outstanding research carried out in the field of Science and Engineering".

## LEADERSHIP, MANAGEMENT & VISION

In the late 1990s Alan was founding Director of the Centre for Digital Video Processing, a University-designated research centre which he has led to where it now has a compliment of 45 full-time researchers and a world-class reputation. He was Dean of the Faculty of Computing and Mathematical Sciences from 1998 to 2004 and was Head of the School of Computer Applications (a School with 45 Faculty) from January 1999 to December 2001 during which he led and managed the growth of the School to where it doubled its intake of students.

## INNOVATION & COMMERCIALISATION

Alan holds 6 patents and has one further disclosure. In 2001 he, with colleagues from DCU, formed a campus company, Aliope Ltd., in order to commercialise some of the research of his group. Aliope grew to have 11 employees at its height before being bought out by another company.

## INTERNATIONAL RECOGNITION

Apart from his publication, his involvement in conference and workshop organisation and his international collaborations, Alan is probably best-known internationally for his involvement in TREC and in TRECVID. TREC is an annual international benchmarking exercise for text retrieval related applications which has been on-going since 1991. Alan was part of the founding program committee

of TREC in 1991 and was involved in organising TREC until the emergence of a spin-off benchmarking activity, TRECVideo, in 2001. TRECVideo completed its 6th annual cycle in 2006 and involved over 70 research groups and collaborations in benchmarking and evaluating the performance of video analysis and video retrieval tasks. Alan is founding coordinator of TRECVideo, which is supported by the US Disruptive Technology Office (DTO) (formerly ARDA/DARPA), who fund the operation of the program through the National Institute of Standards and Technology (NIST) in Gaithersburg, Md. (US), while Alan, with colleague Wessel Kraaij from TNL (NL), coordinates the activity. In 2006 TRECVideo coordinated benchmarking retrieval and feature detection tasks performed by an estimated 380 researchers from almost 100 separate institutions, including two people at NIST who are funded to work to support the TRECVideo programme.

## FIVE EXAMPLES OF RECENT RESEARCH FUNDING

2003–2007 € 995,000	Science Foundation Ireland Investigator Award Content Extraction from Audio Visual Information ( <i>part of AIC</i> )
2006–2007 € 400,000	Samsung Electronics (Korea) A Personal Content Management System for Multimedia Blogging
2006–2007 € 45,000	Microsoft Research, Redmond (US) Landmark Generation from SenseCam Images
2003–2005 € 451,000	Enterprise Ireland Technology Development Fund LOEUVRE: Linked Objects and Events for User-Driven Retrieval
2007–2012 € 603,000	Norwegian Research Council and Fast Search & Transfer (Norway): Centre for Research-based Innovation iAd: Information Access Disruptions

## TEN MOST SIGNIFICANT PUBLICATIONS

1. Wilkinson, R., and **Smeaton, A.F.** Automatic Link Generation. *ACM Computing Surveys*, 31(4), 1999. **Impact factor**<sup>1</sup> **7.400**, ranked 1st from 352 journals in Computer Science.
2. Lee, H., **Smeaton, A.F.**, O'Connor, N. and Smyth, B. User Evaluation of Físchlár-News: An Automatic Broadcast News Delivery System. *ACM Transactions on Information Systems*, 24(2), pp.145-189, 2006. **Impact factor** **4.529**, ranked 5th from 352 journals in Computer Science.
3. **Smeaton, A.F.** Indexing, Browsing and Searching of Digital Video. *ARIST - Annual Review of Information Science and Technology*, 38, pp. 371-407, 2004. **Impact factor** **2.652**, ranked 24th from 352 journals in Computer Science.
4. Gurrin, C. and **Smeaton, A.F.** Replicating Web Structure in Small-Scale Test Collections. *Information Retrieval*, 7(3-4), pp. 239-263, 2004. **Impact factor** **2.036**, ranked 52nd from 352 journals in Computer Science.
5. O'Sullivan, D., Smyth, B., Wilson, D., Mc Donald, K. and **Smeaton, A.F.** Improving the Quality of the Personalized Electronic Program Guide. *Journal of User Modeling and User-Adapted Interaction*, 14(1), pp.5-36, 2004. **Impact factor** **1.318**, ranked 105th from 352 journals in Computer Science.
6. **Smeaton, A.F.** and Browne, P. A Usage Study of Retrieval Modalities for Video Shot Retrieval. *Information Processing and Management*, 42(5), pp.1330-1344, 2006. **Impact factor** **1.192**, ranked 113rd from 352 journals in Computer Science.

<sup>1</sup>Impact Factor taken from ISI Web of Knowledge - Journal Citation Reports, 2005

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7. McHugh, M. and **Smeaton, A.F.** Event Detection in an Audio-based Sensor Network. *Multimedia Systems Journal*, 12(3), pp.179-194, 2006. **Impact factor 0.776**, ranked 182nd from 352 journals in Computer Science.
  8. Doyle, B., Bell, S., **Smeaton A.F.**, McCusker, K. and O'Connor, N. Security Considerations and Key Negotiation Techniques for Power Constrained Sensor Networks. *The Computer Journal*, 49(4), pp.443-453, 2006. **Impact factor 0.691**, ranked 210th from 352 journals in Computer Science.
  9. **Smeaton, A.F.** and Quigley, I. Experiments on Using Semantic Distances Between Words in Image Caption Retrieval. in: *Proceedings of the 19th International Conference on Research and Development in Information Retrieval (SIGIR96)* Zurich, Switzerland, August 1996, pp.174-180. **(most cited paper with 139 cites on Google Scholar)**.
  10. **Smeaton, A.F.** and Callan, J. Personalisation and Recommender Systems in Digital Libraries. *International Journal on Digital Libraries*, 5(4), pp.299-308, 2005. Ranked 5th most downloaded article from this journal within the last 90 days, updated weekly, as of Nov 2006.

Key Performance Indicators (KPIs): Prof. Alan Smeaton	
Books (sole or joint author)	1
Books (edited)	3
Book chapters	9
Refereed papers ...	188
... of which since Jan 2003	89
Citations <sup>2</sup>	1,535
Research Funding	€ 7.333M
Invited lectures / keynotes	17
Ph.D. graduates	9
M.Sc. / M.Eng. graduates (by research)	19
Patents	6
Current size of research team	19
Editorial boards	6

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<sup>2</sup>Taken from Google Scholar, Jan. 2007.