Professor Stephen Anthony Brewster

CONTACT DETAILS

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CURRENT POSITION

Professor of Human-Computer Interaction (HCI), School of Computing Science, University of Glasgow

I joined the School of Computing Science at the University of Glasgow in 1995. I was promoted to Professor in September 2001. I lead the Multimodal Interaction Group which currently consists of three post-doctoral researchers, two RAs and eight PhD students. My group is very active and we have a very strong international reputation. I have over 250 publications in top international journals and conferences and have received more than £4 million in research funding from the EPSRC, EU, charities and companies including Nokia, MobileVCE, HP, Microsoft, Samsung, Google, Freescale, Bang and Olufsen and Immersion. I have been Principal Investigator on 8 EPSRC funded projects and Co-Investigator on three more. I held a prestigious five year EPSRC Advanced Research Fellowship looking into the haptic aspects of multimodal HCI.

My research focuses on multimodal HCI, or using multiple sensory modalities and control mechanisms (particularly hearing, touch and gesture) to create a rich, natural interaction between human and computer. My work has a strong experimental focus, applying perceptual research to practical situations. A current focus of my work is on mobile interaction and how we can design better user interfaces for users who are on the move. This has involved designed novel interactions for touchscreen devices, body based gestures and gait analysis. I have studied the use of audio and haptic feedback to enable mobile users to get feedback from their devices while their attention is on the environment around them. In this work I collaborate very closely with the Nokia Research Center in Finland.

My papers have had over 7500 citations and I have an h-index of 49 (Google Scholar, April 2013). According to Microsoft Academic Search, I am in the top 10 of HCI researchers over the last 10 years.

EDUCATION

1990-1994	**University of York, Department of Computer Science** *DPhil, Human-Computer Interaction.* Thesis*: Providing A Structured Method For Integrating Non-Speech Audio Into Human-Computer Interfaces.* During my PhD I won the 1992 Gibbs-Plessey award
1985-1989	**University of Hertfordshire, Department of Computer Science** *BSc (Hons.) Computer Science (1^{St} Class)*

EMPLOYMENT

July 2009	**Seelye Fellow, Auckland University, New Zealand.** I won a competitive fellowship to visit Auckland and work with Dr Beryl Plimmer on multimodal interaction for visually impaired people.
1/3/2003 - 31/8/2003	**Erskine Visiting Fellow, Department of Computer Science, University of Canterbury, New Zealand** Won a competitive Erskine fellowship for a six month sabbatical to visit Prof Andrew Cockburn and worked on designing and evaluating tactile and multimodal displays.
19/9/1994 – 18/9/1995	**ERCIM Research Fellowship, European Union.** One-year fellowship funded by the EU European Research Consortium for Informatics and Mathematics. I worked at VTT in Helsinki, Finland and SINTEF DELAB in Trondheim, Norway.

ACADEMIC TOPICS AND DISTINCTIONS

I am interested in a wide range of topics in multimodal human-computer interaction, including

Mobile devices	Eyes-free and hands-free gestural interaction	Design for use when on the move	Evaluation of mobile interaction
Audio	Earcons	3D sound, sonification	Musicons
Haptics	Tactile displays, thermal displays, pressure input	Force-feedback devices	Medical haptics, collaborative haptics
User groups	Blind and visually impaired people	Older adults	Mobile users
Applications	Mobile interaction	Multimodal visualisation	Health and wellbeing
Miscellaneous	User interfaces for digital cameras	Smell-based user interfaces	

I am an associate editor for the journals Personal and Ubiquitous Computing, Communications in Mobile Computing (ComC) and Universal Access in the Information Society. I am on the steering board of the International Journal of Mobile HCI and ComC. I am on the board of the Eurohaptics and WorldHaptics organisations, which oversee conferences in the area of haptics research. I was a member of the steering committee for the MobileHCI conference series. I am a member of the committee creating the new ISO standard for tactile and haptic interaction. I am a member of the ACM, a Fellow of the British Computer Society and a chartered engineer.

I have given over 120 invited seminars in the UK and abroad. I have given conference keynotes at: DaFX 2001 (Limerick), RUGM 2002 (Stockholm), CHINZ 2003 (Dunedin, NZ), InterNICHE 2005 (Oslo), the EU FP6-funded ENACTIVE network in 2005 (Pisa), the UK UbiNet 2005 conference (Bath), AudioMostly'08 (Lulea, Sweden), CHINZ 2009 (Auckland), ITA'09 (UK) and ACM ICMI 2009 (Boston, USA. This is the top conference in multimodal human computer interaction).

My work has featured on Spanish TV, BBC Radio 4 and BBC TV, in UK national newspaper articles and in the 'Human Factor' exhibition at the Science Museum in London. My work also represented the School at the Royal Society Summer Science exhibition. Our work on the MultiVis project on access to graphics for blind people featured in the Canadian Broadcasting Corporation's series "When the machine awakes". In 2005 my work on haptic and mobile devices was presented over 4 days at the Science Museum in London. My work on tactile displays was exhibited at the Victoria and Albert Museum in London for their 'Touch Me' exhibition. My EPSRC-funded AudioClouds project was the lead article on the BBC technology website on 4/4/05. In the UK it featured in the Economist, the Independent, the Scotsman and in the USA it featured in Newsweek, Wireless News and ACM TechNews. Articles appeared on the work in, amongst others, Holland, Austria and Poland, and I was interviewed for German and Irish radio. My work with Glasgow Vet School on veterinary training simulators was filmed and featured on the Australian science show "Beyond Tomorrow". This work was commercialised and is now used as a training aid in most of the UK vet schools.

I have a strong track record on funding and have been Principal Investigator on 8 EPSRC projects and a co-investigator on three others. I have also been involved in three EU projects, one charity project funded by ONCE in Spain, one funded by the NHS and several industrial projects from Nokia, Microsoft, Immersion, HP and Samsung, Bang & Olufsen and Freescale. In total I have brought in over £4 million of research income.

I have supervised 13 PhD and two Master by Research students to completion.

CONFERENCES AND JOURNAL SPECIAL ISSUES ORGANISED

In 1998 we started the MobileHCI conference series in Glasgow. I have chaired it in 1999, 2001 and 2004. The MobileHCI conference series is now internationally recognised as one of the most influential in the area with over 400 attendees annually. In 2000 I co-chaired the 1st International Workshop on Haptic Human-Computer Interaction. This was the first workshop in the new research area of touch-based user interaction. The proceedings were published as a book by Springer and the workshop went on to form the part of the Eurohaptics conference series.

I organised the first Haptics and Audio Interaction Design (HAID) conference in Glasgow in 2006. Subsequently I have co-chaired this workshop in Korea, Finland, Germany, Denmark, Japan and Sweden. In 2011 I was co-chair of the ACM TEI conference in Madeira. I was papers chair for EuroHaptics 2012 in Finland. I am papers chair for ACM CHI 2013 and 2014, which is the most important conference in the field of HCI. I have co-edited eight journal special issues on topics ranging from disability to mobile interaction in top journals in the field of HCI include IEEE Transactions on Haptics, Personal and Ubiquitous Computing and the International Journal of Human-Computer Studies.

PUBLICATIONS

I have over 30 journal and 270 refereed conference publications. I have over 50 papers in the ACM CHI conference series, the most significant and highly ranked in my field. I have edited seven books in the Springer LNCS series and written eight book chapters, including invited chapters on auditory interface design for the first, second and third editions of the *Human Computer Interaction Handbook* published by Lawrence Erlbaum which is a key reference work in HCI. My work has won 15 best paper awards: IHM-HCI 2001, BCS HCI 2002, CASCON 2003, BCS HCI 2006, MobileHCI 2006, ACM ICMI 2007 and 2008, ACM CHI 2008, 2010 (2 awards), 2011, MobileHCI 2011 (2 awards), Interacting with Sound Workshop 2011, MobileHCI 2012.

For my full list of publications see www.dcs.gla.ac.uk/~stephen/publications.shtml

MANAGEMENT AND ADMINISTRATION

I have had many management and administrative roles within the School.

- I am chair of the Multimodal Interaction theme of SICSA (Scottish Informatics and Computer Science Alliance), the SFC funded computer science pool. I am also on the main Research Committee for SICSA which steers the direction of research across the whole SICSA pool.
- I chair the School Ethics Committee and am the main representative of the School on the College Ethics Committee.
- I am a member of the School's Research Committee and Management Committees.

Previous roles include:
- For 7 years I chaired the School's management committee (CSMC) This committee runs the school and sets strategy. I have been a member of this committee for more than 10 years.
- For three years I was chair of the Research Committee within the School. This committee provides strategy and leadership in research.
- For five years I was chair of the External Relations Committee of the School. This task involved presenting the School to the outside world to show our high quality teaching and research. I organised the events to celebrate the 50th Anniversary of the School in 2007.
- For seven years I was a member and then chair of the Research Students Committee within the School.
- I was Vice-Dean for postgraduates and head of the Faculty of Informatics, Mathematics and Statistics Graduate School. I was a member of the FIMS Faculty Management Committee.

TEACHING

I have taught and developed many courses during my time at Glasgow. I currently teach 2 courses: IS3 and HCI4
- *Interactive Systems 3 (IS3)*. 3rd year undergraduate module, currently ~65 students.
  I have taught this module for most of my time at Glasgow. *Human Computer Interaction 4 (HCI4)*. 4th year undergraduate module, currently ~40 students.
  I have taught this module for most of my time at Glasgow.

Previously, I developed and taught:
- *General Readings in Computer Science*. Masters Module.
- *Multimedia Interface Design* and *Advanced Multimedia Interaction Techniques*. Masters modules for the MSc in Advanced Information Systems.
- *Human Computer Interaction*. Masters module for the MSc IT course, *Multimedia Systems*. Masters module for the MSc IT course, *Design and Evaluation of Multimedia Systems*. 4th year undergraduate module, *Software Engineering:* 2nd year undergraduate module.

I am currently external examiner for Undergraduate courses at the University of York and St Andrews University. I have previously been external examiner of Masters and Undergraduate courses at Dundee University, University College Cork and University of Limerick. I have examined PhDs at many institutions including:
Overseas: National University of Singapore, University of Oulu, Finland, Institute ParisTech Arts+Metiers, University of Toronto, Hasselt University, University of Magdeburg, University of Limerick, Aalto University.
UK: Cambridge, Manchester (3 theses), UCL, Bristol, Kent, Dundee, Loughborough, Sussex, Birmingham (2 theses), Reading, Nottingham, Queens Belfast, Bath, Bristol.