In a peaceful rural setting, just 8 miles from Scotland’s capital city and only 3 miles from the International Airport, the Edinburgh Conference Centre, Riccarton Campus, Heriot Watt University has the very latest in conference comfort and technology. All key INTERACT ’99 activities will take place in the James Watt Centre, an integral part of the main Conference Centre itself. On-site facilities are excellent, with restaurants, bars, a bank and a leisure centre.

This purpose-built centre also boasts on-site accommodation of a very high standard, with the majority of bedrooms featuring en-suite facilities.

We urge you to opt for on-campus accommodation not only for its excellent value but for the promotion of friendship and scientific contact. Because of this, only a limited amount of hotel accommodation has been reserved in the city centre.

About IFIP TC13

INTERACT is the flagship conference of the IFIP Technical Committee on Human-Computer Interaction (IFIP TC13), staged biennially in different countries in the world.

The International Federation for Information Processing (IFIP) is a multinational federation of professional and technical organisations concerned with information processing. For further details, see IFIP website at http://www.ifip.or.at.

The core of IFIP’s scientific work is carried out by Technical Committees (TC) and Working Groups (WG), mainly by organising events and publishing scientific publications.

IFIP TC13 is an international committee, representing specialists in human factors, ergonomics, cognitive science, computer science, design and related disciplines. It aims to improve interactions between people and computers, encourage the growth of HCI research and disseminate these benefits world-wide. IFIP TC13 strives to develop and apply rigorous methods for studying, modelling and measuring human-computer systems. Areas of study include: problems people have with computers; the impact of computers on people in individual and organisational contexts; determinants of utility, usability and acceptability; appropriate allocation of tasks between computers and users; modelling the user to assist better system design; and harmonising the computer to user characteristics and needs.

IFIP TC13 Working Groups consist of HCI experts from many countries, hosting working conferences and workshops on HCI issues and concerns. WG13.1 (Education in HCI and HCI Curricula) promotes and improves all aspects of HCI education in higher education; WG13.2 (Methodology for User-Centred System Design) seeks to integrate HCI with software engineering by researching and disseminating information; WG13.3 (HCI and People with Special Needs) works to make HCI designers aware of the needs of people with special needs and is currently working on guidelines; WG13.4 (also WG2.7) (User Interface Engineering) works on a framework for reasoning about interactive systems and an engineering model for the development of user interfaces and an engineering model for the development of user interfaces; and WG13.5 (Human Error, Safety and System Development) works on developing leading edge techniques in hazard analysis and the safety engineering of computer-based system.

New Working Groups are formed as areas of significance to HCI arise. The IFIP TC13 website is http://www.csd.uu.se/ifip_tc13/
On behalf of the IFIP Technical Committee 13 on Human-Computer Interaction, I have great pleasure in inviting you to take part in this international HCI conference, the seventh in the IFIP TC13 series. INTERACT '99 has been created through the initiative and drive of the host society, the British Computer Society's HCI Group, and all the voluntary members of the various committees who have been planning the five-day event.

The field of Human-Computer Interaction is a major key area in information technology and telecommunications in the 21st century, in the developing as well as the developed countries. The challenge is to make use of what has been learnt from HCI research and practice in the past and create better and more appropriately usable systems and applications for the next millennium. International participation and cooperation is especially important here.

INTERACT '99 is a truly international conference, giving rise to discussion of international issues and activities, and for meeting with old and new friends from many countries as well as learning from HCI researchers and practitioners from around the world.

The venue of INTERACT '99 is Scotland, with its very active HCI communities, and, in particular, Edinburgh, at the peak of its world-renowned annual Edinburgh Festival season. The atmosphere and traditions of this city create an ideal situation for you to join in and celebrate HCI advances, at the end of this century and in anticipation of the next.

I look forward to meeting you at INTERACT '99, the flagship IFIP TC13 event.

Judy Hammond, IFIP TC13 Chair

As chair of the British HCI Group I have had the pleasure of watching this conference develop from an idea floated at one of our executive meetings, to a proposal to IFIP, to the call for participation. Now, here I am writing a note for the advance programme.

INTERACT '99 incorporates HCI'99 and so the British HCI Group have been pleased to support the conference both with advice and financially with start up loans. Of course, the real credit goes to the conference committee who can be justifiably proud of the exciting programme you have in front of you.

For me Edinburgh always has an air of vigour and enthusiasm, an atmosphere that is accentuated at festival time. I know from experience that this atmosphere will carry over to conferences held in Edinburgh during the festival. Looking at this programme, with influential speakers from all over the world, I can see that many other people share my sense of anticipation. This is an exciting time for HCI - come to Edinburgh and be a part of this experience.

Andrew Monk, British HCI Group Chair

INTERACT'99

www.bcs.org.uk/hc1999
INTERACT '99 is sponsored by IFIP TC13

Hosted by the British Computer Society through its specialist group, the British Human-Computer Interaction Group

Support from the following sponsors is gratefully acknowledged

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INTERACT '99 is held in cooperation with
The tutorial programme offers an opportunity to benefit from a concentrated learning experience in a leading-edge area of HCI. Whether you are a practitioner with several years experience, a researcher in any aspect of interactive system theory or design, or a recent graduate just starting in the field, you are sure to find tutorial topics of direct relevance and practical benefit in your work.

The presenters are leading exponents in their field, and have wide experience of small group teaching. Each tutorial is accompanied by a comprehensive set of notes and resources for further learning and development. Additional sets of tutorial notes will be available for sale during the conference.

It is advisable to book early for the tutorials of your choice, as there is an upper limit on numbers. If your selected tutorial is full you will be offered an alternative, or a refund. It may on the other hand be necessary to withdraw a tutorial in the event of there being insufficient interest. Delegates who have booked for a tutorial that has to be withdrawn will be notified in advance of the conference and offered an alternative or a refund.

Enquiries about the coverage or content of particular tutorials should be addressed in the first instance to the Tutorials Chair, Dr Janet Finlay:

+44 (0)148 447 9138
j.e.finlay@hud.ac.uk

Full Day

CSGW, Groupware and Workflows: Experiences, State of Art, and Future Trends

Jonathan Grudin, Microsoft Research; Steven Poltrock, The Boeing Company

Objectives

Participants in this tutorial will connect and compare experiences in a subset of groupware problems and the organizers.

They learn what groupware technologies are being used, what problems people have encountered, and how successes were attained. They receive an update on the state of the art in a range of research and technology areas.

Participants are reminded of the many disciplines that can potentially contribute to use and design.

Content

This full-day tutorial draws on the experiences of the participants and instructors with groupware and workflow technologies, and CSGW issues and methods, to construct an informed picture of what is happening and possible. It includes structured subgroup activity by participants. Interspersed lecture materials provide state of the art summaries of research and technology areas, and frame or expand upon subgroup activities. We cover (1) the multi-disciplinary nature of CSGW and the opportunities this provides, (2) state of the art technologies that support communication, information sharing, and coordination, and experiences with each, (3) behavioral, social, and organizational challenges to developing, acquiring, or using these technologies, and approaches that lead to success, (4) future trends in groupware and global social impacts that are becoming evident.

Audience

This introductory tutorial is intended for people interested in collaborative work and technologies that support it. Minimal requirements are a general background in HCI and experience working collaboratively. Knowledge or experience with collaborative technologies is not expected. Intended participants include users, developers, researchers, marketers, or managers of any aspect of CSGW, groupware, or workflow systems.

Tutors

Steven Poltrock and Jonathan Grudin began their collaboration in 1986 studying group work in human-computer interface design and development. Steven Poltrock introduces, evaluates, and deploys groupware systems that support collaboration, organizational memory, current and active groupware systems, and research on collaboration. Jonathon Grudin has worked as developer, researcher and consultant, and has written numerous technical and popular articles on groupware, including survey articles published in IEEE Computer and Communications of the ACM.

Full Day

Planning and Implementing User Centred Design

Nigel Bevan, Serca Usability Services

Objectives

You will learn a structured approach to user-centred design based on the principles of the forthcoming International Standard ISO 13407: “Human centred design processes for interactive systems” and other associated standards.

Content

• An introduction to user-centred design
• The role of ISO 13407
• Core techniques to support user-centred design
• How to set up the right method to assure usability
• A copy of the Handbook of User Centred Design

Audience

The tutorial is intended for Project Managers and Business Managers who wish to improve the usability of their systems. It Procurers who wish to ensure their suppliers have a human-centred design process in place, and Human Factors Consultants and Researchers interested in the practical application of appropriate methods. Some knowledge of usability is an advantage, but the tutorial is not aimed at experienced usability professionals.

Tutor

Nigel Bevan has first degrees in physics and psychology and a Ph.D. in man-machine interaction. He was technical co-ordinator of the MUSIC project, and manager of the INUSE and RESPECT projects with a network of Usability Support Centres around Europe. He currently manages the TRUMP project which is applying INUSE methods in industry. He is an active participant in ISO 13407, and is editor of ISO 9241-11, ISO 14598-1 and ISO 9216-1.
TUTORIALS

Monday 30th August

Contextual Inquiry: Gathering Customer Data for System Development
Karen Holzblatt, InContext Enterprises Inc., USA

Objectives
Participants in this tutorial will:
• learn effective ways to collect customer data in the field
• learn principles of field inquiry which can be adapted to any problem situation
• learn effective team approaches to analysing the data collected
• learn how to involve customers throughout the development life cycle.

Content
This tutorial, taught by the originator of Contextual Inquiry, presents a practical introduction to the use of field research in designing computer systems that support and extend people’s work. Participants practice key interviewing and analysis techniques and learn principles for applying them to their own problem. The instructor draws examples from her experience working with product companies and Information Technology organizations to develop requirements, define products and strategies, and design information systems.

Contextual Inquiry is a technique for interviewing and observing users in their own workplace as they work. The technique is designed to be effective given the time constraints and work situations of engineering teams. The technique drives initial design concepts by forming an accurate understanding of how people work. This is the basis for effective design action. The tutorial develops skills in data collection, analysis, and use through hands-on experience. The tutorial shows how to use Contextual Inquiry throughout the system development cycle, and how to adapt the approach to different situations.

Approach
This tutorial introduces the design and construction of some specialized components and then illustrate how a specialized component can be further developed and packaged for effective use in a bean-aware environment. The ability to store persistently a configured bean and techniques for inter-nationalisation and localisation will also be presented.

Audience
This tutorial is suitable for attendees of the linked tutorial “Producing Usable Artefacts with Java 2.0”. Other attendees will require a working knowledge of Java, particularly the event source/listener model and experience of Object Oriented Design and Development, particularly notations.

Tutor
Fintan Culwin is a reader at South Bank University, London. He has presented a number of tutorials on Java at international conferences, has published two books on Java and is currently writing one on the JFC.

Producing Usable Artefacts with Java 2.0
Fintan Culwin, South Bank University, London

Objectives & Content
The Java 2.0 release includes the Java Foundation Classes (JFC), a set of widgets which supply an enriched look and feel. However, this provides no guarantee that a Java artefact will have effective usability and functionality. This tutorial is intended to introduce the patterns, processes and notations that attempt to ensure that Java artefacts are designed from the outset with due regard to the user’s needs.

This is accomplished by modelling the user’s interaction with an artefact by means of State Transition Diagram (STD) notation. The STD is then used to derive the design of the complete artefact, using a number of different notations. The tutorial will present a small case study of these techniques, it will also present the STDs for more complex examples and conclude with an overview of the JFC widgets.

Audience
This tutorial is intended for software developers who have a familiarity with CStyle syntax and semantics and an appreciation of Object Oriented Design and Development.

Tutor
Fintan Culwin is a reader at South Bank University, London. He has presented a number of tutorials on Java at international conferences, has published two books on Java and is currently writing one on the JFC.

From Components to JavaBeans
Fintan Culwin, South Bank University, London

Objectives & Content
The Java 2.0 release includes the Java Foundation Classes (JFC) which supply a collection of user interface components. However, specialised requirements may not be satisfied by any of the pre-supplied components, and may require the development of a new component. A bean is a software component (not necessarily a GUI component) which complies with the JavaBean specification and so can be easily used in conjunction with other beans and by bean-aware software development tools. This tutorial will introduce the design and construction of some specialised components and then illustrate how a specialised component can be further developed and packaged for effective use in a bean aware environment. The ability to store persistently a configured bean and techniques for inter-nationalisation and localisation will also be presented.

Audience
This tutorial is suitable for attendees of the linked tutorial “Producing Usable Artefacts with Java 2.0”. Other attendees will require a working knowledge of Java, particularly the event source/listener model and experience of Object Oriented Design and Development, particularly notations.

Tutor
Fintan Culwin is a reader at South Bank University, London. He has presented a number of tutorials on Java at international conferences, has published two books on Java and is currently writing one on the JFC.

A Modelling Technique for Process Redesign
Anthony Crawford, IBM Canada Education and Training

Objectives
On completion, students will be able to apply the concepts and use the model for their own projects and change initiatives.

Content
This tutorial demonstrates an approach to model business engineering that promotes user involvement in product solutions design and pre-implementation phases of systems development. The approach is presented in the context of recommendations and ISO standards for quality design, human factors and ergonomics for operating interfaces with technology.

The technique provides a completely operational view of business process redesign. The models are quick, easy to use and highly appreciated by business people when they are given an opportunity to participate in solutions design. In the result, it facilitates design quality and enhances pre-implementation testing.

Audience
The target audience of this tutorial is anybody with responsibility for designing and developing web-based user interfaces, plus their managers. The tutorial will concentrate on user interface design and will not cover system administration or coding.

Tutor
Lee Ann Grim is a Principal Technical Staff Member in the AT&T Network Processing Group. She is responsible for the definition of common look and feel user interface design standards for transactional business applications and participates on cross-corporate inter-ward expert works.
Programming Collaborative Applications for the Web
Andreas Girgensohn, FX Palo Alto Laboratory & Alison Lee, IBM TJ Watson Research Center

Objectives
At the end of the tutorial, participants will possess sufficient knowledge and experience to develop their own Web-based collaborative applications.

Content
The goal of the tutorial is to provide insights into and understanding of the Web architecture and building blocks; how to use the Web as a rapid prototyping platform for collaborative applications; how to construct the client-side presentation portion of applications and how to programme the client and server side functionality. The topics and issues address not only the use of Web technologies, but also the development of collaborative applications. Issues relevant to interaction, customization, client-server integration and co-ordination, firewall support, user identification/authentication, security, scalability will be discussed. Exercises provide opportunities to use the technologies and to explore the issues discussed in the lectures. A specially selected collaborative application has been constructed for the students to complete in the exercises.

Audience
Researchers, designers and developers interested in Web-based collaborative applications. Familiarity with Web browsers, an interest in programming, and knowledge of at least one C-like programming language is recommended.

Tutors
Andreas Girgensohn is a senior research scientist at FX Palo Alto Laboratory and Alison Lee is a research staff member at IBM TJ Watson Research Center. They have strong backgrounds in computer science and human-computer interaction. Over the last four years, they have developed tools and methodologies to support distributed work groups. The instructors have presented updated versions of this tutorial to the CHI, CSCW, Web, Groupware and KBSE communities over the last three years.

Industry Standard Usability Tests
Nigel Bevan, Serco Usability Service, UK

Objectives & Content
A Common Industry Format for reporting usability test results is currently being agreed between major software suppliers and purchasers in the United States in an initiative co-ordinated by NIST. The scheme is due to be published and start pilot testing in early 1999. The tutorial will explain the potential benefits of the scheme to producers and purchasers, and how organisations outside the United States can become involved. The tutorial will explain how to test and report usability using the Common Industry Format, and highlight the differences between usability testing to obtain design feedback, and the more stringent requirements of usability testing to report usability measurements. The tutorial will also explain the wider benefits of specifying and measuring usability as a quality objective during product development. The tutor is a major contributor to the Common Industry Format usability report scheme.

Audience
The tutorial is intended for anyone who needs to design summative usability tests and document the results of these tests, and for practitioners who wish to carry out tests to be documented as Common Industry Format Usability Test Reports. Some prior experience of usability evaluation will be an advantage.

Tutor
Nigel Bevan is at Serco Usability Services (previously NPL Usability Services). He has been a major contributor to the Common Industry Format Usability Test Reports scheme.

Human Centred Processes, their Maturity and their Improvement
Jonathan Earthy, Lloyd’s Register, Brian Sherwood-Jones, BAE SYSTEMS, Jenny Wilton, Philips Design

Objectives
The software engineering community is gaining business benefits from identifying, assessing and improving its processes. This tutorial describes how HCI can do the same. Have you ever wondered why some companies adopt usability with ease whilst others cannot, or do not benefit? Much depends on the maturity of their approach to human-centredness. This tutorial:
• describes the process approach and maturity and how the two fit together
• explains the modelling of human-centred processes
• gives examples of organisational process improvement at Philips
• reviews approaches to the assessment of capability and human-centredness
• gives hands-on exercises in process definition and assessment.

Copies of the Usability Maturity Model and Human-centredness scale will be provided to all attendees. Most attendees should feel confident to perform a human-centredness assessment by the end of the tutorial.

Content

Objectives
HCO consultants/managers, Usability staff, IT system procurers, software process improvement specialists, those interested in process issues, anyone from the software industry attending the conference.

Tutors
Jonathan Earthy, Principal Human Factors Specialist for Lloyd’s Register, developing assurance for human factors processes, products and marine systems. Lead developer of INUSE UMM.
Brian Sherwood-Jones, Human Factors specialist with more than 20 years experience, 13 years with BAE SYSTEMS. Leads in-house development in Total System Maturity measurement and process improvement.

Bronwen Taylor has long experience in the integration of human factors into software processes, products and marine systems. Currently working on the Humanware Process Improvement programme at Philips Design in the Netherlands.
TUTORIALS

Tuesday 31st August

Full Day Tutoring Program:

Cognitive Factors in Design: Basic Phenomena in Human Memory and Problem Solving

Thomas T. Hewett, Drexel University, Philadelphia, PA, USA

Objectives

The main objective is to help participants develop knowledge of human memory and problem solving processes which is useful in interpreting design guidelines and in making design choices in the absence of guidelines. Other objectives are to illustrate applications to HCI design and to facilitate future learning or teaching.

Content

You will learn some theoretical underpinnings and practical aspects of how people remember and how they solve problems. You will also gain ideas about how to use that knowledge during product design and how to take advantage of some of the capabilities of your most important interface component: the human mind.

Coverage includes a range of basic phenomena in human memory and problem solving and selected illustrations of their application.

Audience

The course is designed for interface designers, technical writers, and anyone who wants insight into some of the workings of the human mind and how they can influence design. (No psychology background required.)

Tutor

Tom Hewett is Professor of Psychology at Drexel University where he teaches courses on Cognitive Psychology, Psychology of Human Computer Interaction, and Problem Solving and Creativity. He has offered variants of this tutorial to hundreds of interface designers at both conferences and in-house training sessions. He is a published courseware author, has worked on the development and evaluation of several projects, and is currently working with a group of computer scientists who are developing a Scientific Problem Solving Environment which integrates symbolic and numeric computing.

Objectives

• To gain a basic understanding of speech recognition technology
• To appreciate the benefits and limitations of speech input in interface design
• To understand the issues and guidelines for speech-driven user interfaces
• To gain practical experience in the design and evaluation of speech-driven user interfaces.

Content

1. Introduction
2. Overview of speech recognition technology
3. Using speech input in user interfaces
4. Speech interface design issues and guidelines
5. Practical: design and evaluation of speech-enabled user interfaces
6. Conclusions

Tutor

Tony Rose has published widely in the area of speech and language technology, and has undertaken appointments both within and outside of academia. He joined the Speech and Language Group at Canon Research Centre in November 1996. He is currently working on a variety of technologies including interface design for information retrieval systems. Elisa del Galdo has worked as a principal human factors engineer with Digital Equipment Corporation Ltd. and has run her own European Human Factors Consultancy. She joined the Speech and Language Group at Canon Research Centre in January 1997 to work on the design and prototyping of speech-driven devices. She is now a human factors consultant with Cambridge Technology Partners.

Objectives

Several U.S. information technology consulting groups have recently projected that in less than 5 years, the box-like desktop PCs will constitute a minority of computing devices in general. Many of the remaining majority will be woven into our clothing, in our watches, held in our hands, stuffed in our pockets, or worn somewhere on our bodies. The early versions of these devices are being used in environments and for tasks that have never been seen computers before. The design of the applications that run on them and the design of the user interfaces for these applications are often very different from that of their desktop counterparts. There are new rules to remember and old rules to forget. This tutorial describes these new devices, discusses some of these new design challenges, and presents some recent case studies where they have been successfully met.

Audience

The intended audiences are software developers and user interface designers.

Tutor

The presenter will be Dr. Chris Esposito, from the Augmented and Virtual Environments Group in the Phantom Works research arm of The Boeing Company. Dr Esposito has been working in this area since 1994.

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Workshops provide 1 or 2 day forums for participants to exchange experience and explore research issues on topics of special interest to the HCI community. Workshops should have specific objectives, address stimulating topics and aim to report their activity. Workshops usually have about 20 participants and meet within the two day period prior to the conference.

Five workshops have been accepted from the first call. A further 7 workshops can be accommodated, and proposals for the second call are welcome up till 10th May. These should cover objectives, theme/topic, workshop organisation and duration, target audience, and expected outcomes. Further details of submission content and format may be found in the Call for Participation and on the conference Web site (www.bcs.org.uk/hci/i99).

Submissions and enquiries should be addressed to the Workshops co-Chair: Alistair Sutcliffe, City University, London (tel +44-(0)171-477-8411 fax +44-(0)171-477-8859 email g.sutcliffe@city.ac.uk).

If you are interested in participating in one of the workshops listed below, please contact the organiser, or the Workshops Co-Chair, for information about the requirements for participation in the workshop. Do not enter a workshop on the INTERACT ‘99 registration form unless you have been accepted as a workshop participant by the organiser. You will be able to enrol separately for a workshop after completing main conference registration, so there is no need to delay registration till workshop participation is finalised.

Everyone noting an interest in workshop participation will be kept informed by email and via the Web site.

**WORKSHOPS**

**Monday 30th / Tuesday 31st August**

### **W1**

**Is Cognitive Engineering the way forward for HCI?**

John Long, A. Stork and T. Lambie, University College London

This workshop investigates the definitions and approaches adopted in cognitive engineering and discusses how this field may contribute to HCI in the future. Cognitive engineering has grown out of applied psychology and ergonomics studies of complex systems, frequently in safety critical domains such as air traffic control and nuclear power. An ESRC research programme has recently been completed which brought together computer scientists, designers, psychologists and sociologists in collaboratory research on this theme. The workshop will review the history and convergence of HCI research with cognitive science, and then examine the development of cognitive engineering and its potential in the short and longer term.

**Contact**

A. Stork, University College London

email a.stork@ucl.ac.uk

### **W2**

**Representational support for user-developer communication in systems development**

Eamonn O’Neill, Hilary Johnson, Peter Johnson and Pat Maloney, Queen Mary & Westfield College, University of London

Communication in the design process is mediated by a variety of different representations, e.g. video, text, diagrams, yet we have little understanding of how these representations help communication in collaborative design. This workshop focuses on the role that different forms of design representations, ranging from diagrams, storyboards, mock-ups to prototypes, play in the design process and investigates how these representations facilitate user-developer communication. Other themes to be discussed are how the properties of a representation make it an effective communication aid for different purposes (e.g. understanding tasks, user requirements, design), how representations are transformed during the design process, and how different representations function during different stages and contexts in the design process.

**Contact**

Eamonn O’Neill, Queen Mary & Westfield College, London
e-mail eamonn@dcs.qmw.ac.uk

### **W3**

**Usability Pattern Language: creating a community**

Richard Griffiths, Lyn Pemberton, University of Brighton, Jan Borchers University of Ljubljana, Austria

This workshop is intended to introduce the idea of using pattern languages for recording and disseminating good practice in usability design, and to build a community of design pattern practitioners. Researchers and designers in HCI are faced with the challenge of creating interfaces, systems and settings which have the ‘quality without a name’, which in our community we acknowledge via terms such as ‘user friendliness’, ‘affordance’, ‘intuitive’, ‘transparent’ and so on. The workshop will address the following issues with the aim of initiating a continuous process of pattern development and review:

- How best to find usability patterns
- How to document them
- How to maintain pattern languages
- How to disseminate pattern languages
- How to apply patterns
- How to evaluate patterns
- How to evaluate the application of patterns

Case studies and examples

**Contact**

Jan Borchers, University of Ljubljana, Austria

email jan@tk.uni-linz.ac.at

### **W4**

**Human Computer Interaction with Mobile Devices**

Mark Dunlop & Stephen Brewster, GIST, University of Glasgow, Scotland

The last 3-4 years have seen the development and marketing of a vast array of mobile computing devices. The utility of these devices is reduced by the problems of accessing information resources through tiny displays. This can be especially pronounced when that information is ‘perishable’, where its value is only relevant to particular locations and times. This workshop will provide a forum for discussion of the challenges and potential solutions for effective interaction with mobile devices.

- Papers are invited on, but are not limited to, the following topics:
  - visualisation techniques for large data sets on small displays
  - speech input
  - evaluations of mobile devices being used in remote/hazardous locations
  - safety issues in the operation of mobile devices
  - case studies of the existing tasks performed by mobile users
  - requirements engineering for location independent (and location independent) computing
  - interfaces that support the integration of mobile devices and telecommunications
  - authoring Web pages
  - novel user interfaces.

**Submissions**

Extended abstracts (3-5 pages) should be sent to the address given below by 21 May 1999. Submission can be electronic (e-mailed URL reference to a single HTML page or PDF document; or e-mailed PDF or plain text) or on paper. For full details on submission see http://www.dcs.gla.ac.uk/mobile99

**Contact**

Dr Stephen Brewster
Department of Computing Science, University of Glasgow, Glasgow G12 8QQ, Scotland.

email stephen@dcs.gla.ac.uk

tel +44 (0)141 330 4966
fax +44 (0)141 330 4913

### **W5**

**Making User-Centred Design Usable**

Jan Gulliksen, Uppsala University, Sweden

This workshop will focus on certain issues regarding how UCD helps interface designers in their work and helps them meet their deadlines, i.e. how to make the UCD process usable for its users. Such issues include, for instance:

- How does UCD change the way we view the design process?
- What is design? What aspects of a system do we design?
- How do we take the creative aspect of design into consideration? Is it possible to split up analysis and design, and perform them sequentially, or do they have to be parallel activities? Are there any systems development models that support the explorative nature of the user interface design and UCD process?
- How does UCD change the role and work of the designer?
- In what ways can the UCD process help the designer? What happens when the designer starts to understand the user, the area of work and the context?
- How do we create a cultural context for UCD in the organisation and in the project? In what ways should the management and organisation support the UCD process so that the interface designer can work efficiently and create a truly usable system? What attitudes are required in the organisation and in the individual for UCD process to be successful?
- Do prototypes and mock-ups help in creating a shared understanding of the context? Do they create a common ground for the users, the HCI professional (i.e. somebody who is responsible for the HCI and usability issues in a project) and the interface designers? When and how can prototypes and mock-ups be used?

We hope to attract practitioners and researchers with practical experiences within the field of UCD as well as system developers and designers with an interest in this field. The workshop will provide a possibility to discuss these matters and exchange experiences. The results of the workshop will be a summary of the discussions, which will be published in a special issue of an international journal or in an edited volume. Contacts have already been made with possible publishers. If possible, we also intend to publish the result in the form of a checklist which would contain tips, activities, methods and techniques, which could support the interface design process and bridge the gap between the HCI professional, the users and the interface designers.

**Contact**

Jan Gulliksen, Uppsala University, Sweden

email Jan.Gulliksen@hci.uu.se
### Dr. Karen Holtzblatt: Customer-Centered Design as Discipline

Dr. Karen Holtzblatt has led teams in using customer-centered techniques to design software, hardware, and product strategies since 1987. She is the originator of Contextual Inquiry, an industry standard for gathering field data to understand how technology impacts the way people work. She is co-founder of InContext Enterprises, a consulting business helping the high-tech industry design products and market strategies using Contextual Design, their customer-centered requirements gathering and front-end design process.

Through InContext and her previous work as an engineer at Digital Equipment Corporation, she has pioneered the introduction of customer-centered design processes into engineering and information technology organizations, marketing and usability groups throughout the world. Contextual Design techniques have been taught for many years at the ACM CHI and Software Development conferences, and as part of the design curriculum at major universities throughout Europe and the United States.

Karen has more than 20 years of teaching experience, professionally and in university settings and holds a doctorate in applied psychology from the University of Toronto.

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### INDUSTRY DAY Wednesday 1st September

<table>
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<tr>
<th>Time</th>
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<tr>
<td>09.00</td>
<td>Introduction and Welcome</td>
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<tr>
<td>09.30</td>
<td>Keynote: Karen Holtzblatt</td>
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<tr>
<td>10.30</td>
<td>Coffee</td>
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<tr>
<td>11.00</td>
<td>Professional Practice and Experience</td>
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<td>13.00</td>
<td>Lunch</td>
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<td>14.30</td>
<td>Speech</td>
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<td>16.30</td>
<td>Tea</td>
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<tr>
<td>17.00</td>
<td>Keynote: Roy Kalawski</td>
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<tr>
<td>18.00</td>
<td>Break</td>
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<tr>
<td>18.30</td>
<td>Drinks Reception hosted by Academic Press</td>
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### Keynote: Karen Holtzblatt

**Customer-Centered Design as Discipline**

The first day of the conference has a particular industry focus, and will include presentations on the practice and experience of HCI and usability professionals involved in development projects or consultancy. Contributions are invited describing the introduction, application, adaptation or extension of HCI theory, methods, tools or techniques, and the structural, organisational, financial, and professional implications of this activity. Case studies, pioneering applications in new domains or sectors, cost-benefit analyses, organisational impact, participative design experience, management structures, trade-offs, discount methods and when to use them, the place of the HCI professional in the development group, the promotion of the HCI profession, training needs and requirements in a changing market, professional accreditation, and the tensions between user-centred design and delivery deadlines, are among the areas which this track encompasses. Papers may also highlight priority areas for further research, or the areas of expertise which educators and trainers need to address in order to meet the emerging skill shortages in the commercial and industrial sectors.

Submissions should not exceed 6 pages, and may include supporting video material (PAL or NTSC VHS). Detailed formatting guidance is available on the conference Web site, or in printed form on request to the conference secretariat. Submissions should be sent by 10th May 1999 to Allistair Kilgour, Heriot-Watt University, Edinburgh EH14 4AS tel: +44 131 451 3432, E. A.C.Kilgour@hw.ac.uk

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###次のページに続く...
Roy Kalawski

Next generation Virtual Reality - A challenging HCI research agenda for beyond the year 2000

Professor Roy Kalawski spent 18 years working for British Aerospace ultimately becoming responsible for cockpit research and development across the Military Aircraft Division. Since 1978, he has undertaken research into virtual interfaces and has led several international collaborative human factors based projects involving virtual interfaces. In 1992 he was appointed Visiting Professor of Virtual Environments in the Department of Computer Science at the University of Hull. He established a range of demonstrator programmes involving virtual interfaces for which in 1993 he received a Medal of Recognition from the Royal Aeronautical Society. In 1995 Professor Kalawski took up a newly created Chair in Human Computer Integration at Loughborough University and established the Advanced VR Research Centre (AVRRC). This led to the establishment of the first Reality Centre at a UK university. The Centre was formally opened in 1996 by HRH Duke of Edinburgh. A wide range of human factors based research projects have been undertaken since the Centre was established. The close involvement of industry throughout has ensured a high degree of relevance as well as the provision of well-equipped laboratory facilities. Professor Kalawski is a steering group member of the Reality Centre Users. He has recently been voted as the Chairman of the DTI VR Forum which represents academic and industrial users of VR.
Brian Gaines

HCI in the next millennium: supporting the world mind

Dr. Brian R. Gaines is Killam Memorial Research Professor, Dean of Graduate Studies, Associate Vice President (Research) and Director of the Knowledge Science Institute at the University of Calgary. His previous positions include Professor of Industrial Engineering at the University of Toronto, Technical Director and Deputy Chairman of the Monotype Corporation, and Chairman of the Department of Electrical Engineering Science at the University of Essex. He received his BA, MA and PhD from Trinity College, Cambridge, and is a Chartered Engineer, Chartered Psychologist, and a Fellow of the Institution of Electrical Engineers, the British Computer Society and the British Psychological Society. He is editor of the International Journal of Human-Computer Studies and Knowledge Acquisition, and of the Computers and People and Knowledge-Based Systems book series. He has authored over 400 papers and authored or edited 10 books on a wide variety of aspects of computer and human systems. His research interests include: the socio-economic dynamics of science and technology; the nature, acquisition and transfer of knowledge; software engineering for heterogeneous systems; and the support of scholarly communities through the Internet.

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**PROGRAME Thursday 2nd September**

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<th>Time</th>
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<tr>
<td>09.00</td>
<td>Keynote: Brian Gaines</td>
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<td>10.00</td>
<td>Coffee</td>
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<td>10.30</td>
<td>Novel Interaction</td>
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<td>Accessibility</td>
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<td>Interruptions and Coordination</td>
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<td>Design Patterns</td>
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<td>12.30</td>
<td>Lunch</td>
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<td>14.00</td>
<td>Haptics</td>
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<td>Design Techniques</td>
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<td>Remote Interaction and Evaluation</td>
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<td>16.00</td>
<td>Tea</td>
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<td>16.30</td>
<td>Keynote: Veronique de Keyser</td>
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<td>17.30</td>
<td>Break</td>
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<tr>
<td>18.00</td>
<td>AGM - The British Computer Society/Human-Computer Interaction</td>
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<tr>
<td>19.30</td>
<td>Reception and Conference Dinner at the Royal Scottish Museum</td>
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**PROGRAMME Thursday 2nd September**

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<th>09.00</th>
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<tbody>
<tr>
<td><strong>Healthcare Informatics</strong></td>
<td><strong>Panel 3</strong> Story and the design of Participatory Media</td>
<td><strong>Posters</strong></td>
<td><strong>Videos</strong></td>
<td><strong>The Interactive Experience</strong></td>
<td><strong>Exhibition</strong></td>
<td><strong>Panel 4:</strong></td>
<td><strong>Posters</strong></td>
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<tr>
<td><strong>Classification Space for Augmented Surgery, an Augmented Reality Case Study</strong></td>
<td>Veronique de Keyser</td>
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<tr>
<td>Emmanuel Dubois, CLIPS-IMAG and TIMC-IMAG, Laurence Nigay, CLIPS-IMAG, Jocelyne Troccaz, TIMC-IMAG, Olivier Chauveau, University Hospital, Gronolette, Lionel Carre, TIMC-IMAG</td>
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<td>Weak at the knees? Arthroscopic surgery simulation user requirements, capturing the psychological impact of VR innovation through risk based design</td>
<td>John C Arthur, Warwick University Risk Initiative, Avril D McCarty, Dept of Medical Physics &amp; Clinical Engineering, University of Sheffield, Henry P Worn, Warwick University Risk Initiative, and Peter J Marley, University of Sheffield School of Mathematics and Statistics</td>
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<td>Lionel Carrat, TIMC-IMAG</td>
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<td><strong>Telemedical consultation in primary care: a case study in CSCW design</strong></td>
<td>Andrew Work, University of York</td>
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<td>Leon Watts, Equipe IIHM, Laboratoire CLIPS-IMAG</td>
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<td><strong>Programming Environments</strong></td>
<td><strong>Panel 4:</strong> Please check the INTERACT ’99 website for up-to-date information on panels accepted after the 2nd Call deadline of 10 May 1999.</td>
<td><strong>Posters</strong></td>
<td><strong>Videos</strong></td>
<td><strong>The Interactive Experience</strong></td>
<td><strong>Exhibition</strong></td>
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<tr>
<td><strong>Improving Functional Programming Environments</strong></td>
<td>Jonathan Whittle, University of Edinburgh and Recom Technologies Inc</td>
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<td>Incremental Control of a Children’s Computing Environment</td>
<td>Robert Sheahan, Computer Science, University of Auckland</td>
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<td>A Brick Construction Game Model for Creating Graphical User Interfaces: The Ubit Toolkit</td>
<td>Eric Lecolinet, ENST / INFRES</td>
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<td>GUI TESTER2: an Automatic Consistency Evaluation Tool for Graphical User Interfaces</td>
<td>Hidehiko Okada, Shinichi Fukushima and Toshiyuki Aihara, NEC Corp.</td>
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Veronique de Keyser

Veronique de Keyser is full Professor of Work and Organizational Psychology at the University of Liege in Belgium where she runs an Excellence Research Center (PAI). Her research team carries out basic and applied research in cognitive psychology, cognitive ergonomics, and AI. Basic research is mainly focussed on human error, dynamic decision making in naturalistic situations and cognitive modelling. Applied research concerns human-computer interactions in dynamic and risky environments, such as aeronautics and anaesthesiology. Currently President of the European Association of Work and Organizational Psychology, Director of the review Le Travail Humain, Veronique is an expert for the Belgian and French scientific authorities and for several programmes of the European Commission. Her main publications are related to time and human error.
**Keynote: Johanna Moore**

**Conversations with Applications**

Johanna D. Moore is Professor of Artificial Intelligence and Director of the Human Communication Research Centre at the University of Edinburgh. Her research is aimed at developing computational models of the way that humans understand and generate natural language and graphical representations. Advances in this research program will improve the communicative capabilities of computer systems that assist, instruct, educate, or represent their users (e.g., expert systems, intelligent tutoring systems, and software agents).

Professor Moore has directed and participated in several externally funded interdisciplinary research projects applying her expertise in natural language processing, planning, and knowledge representation to problems in intelligent tutoring systems, human-computer interaction, and the automatic generation of interactive presentations with coordinated text and graphics.

Professor Moore is the author of "Participating in Explanatory Dialogues" (MIT Press, 1995), and is the recipient of a National Science Foundation National Young Investigator Award. She serves as Associate Editor of the Journal of Artificial Intelligence Research, and has served as Guest Editor for the journals Computational Linguistics and Knowledge Based Systems.

She was Program Chair for the 17th Annual Meeting of the Cognitive Science Society (1995) and the 1997 International Conference on Intelligent User Interfaces.

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**Programme Friday 3rd September**

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<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>09.30</td>
<td>Keynote: Johanna Moore</td>
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<tr>
<td>10.30</td>
<td>Coffee</td>
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<tr>
<td>11.00</td>
<td>3D and Virtual Environments</td>
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<td>11.00</td>
<td>Social Psychology and Contextual Design</td>
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<td>11.00</td>
<td>Learning</td>
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<td>Evaluation Tools</td>
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<td><strong>Towards a better understanding of usability problems with</strong></td>
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<td><strong>virtual environments</strong></td>
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<td>Kulwinder Kaur, Alistair Sutcliffe and Nad Widmoe, Oly University</td>
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<td><strong>Controlling a Single 3-D Object: Viewpoint, Metaphors, Speed</strong></td>
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<td><strong>Subjective Satisfaction</strong></td>
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<td>Tina Parisa, University of Tampere</td>
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<td><strong>Wayfinding/Navigation within a QTVR Virtual Environment</strong></td>
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<td>Brian Norris, Daizud Z Rados and William Meng, University of Otago</td>
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<td><strong>Sequential display: an effective alternative to conventional animation</strong></td>
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<td>Mireille Bierarcourt, INRA Diessable</td>
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<td><strong>The usability of computer-based work systems</strong></td>
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<td>Kurt Duerer Killer, Aalborg University</td>
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<td><strong>New Technology and Work Practice: Modelling Change with Cognitive Work</strong></td>
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<td></td>
<td>Analysis</td>
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<td></td>
<td>Peter Bernt and Penelope M. Sanderson, Swinburne Computer- Human Interaction Lab</td>
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<td><strong>Using Contextual Information Effectively in Design</strong></td>
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<td>Steven Clarke, Glasgow</td>
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<td><strong>Gilbert Cockton, SCEI, University of Sunderland</strong></td>
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<td><strong>Supporting interaction strategies through the externalisation of strategy concepts</strong></td>
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<td>Alden Dockayre, Peter C Wright and Bob Fields, HCI Group, Department of Computer Science, University of York</td>
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<td><strong>Redundancy Effects in Instructional Multimedia Systems</strong></td>
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<td>Frank Winters and Steve Howard, Swinburne University of Technology</td>
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<td><strong>Modelling the Learner in a World-Wide Web Guided Discovery Hypertext Learning Environment</strong></td>
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<td>K W Pang, GC, Microsoft Solution Centre 4 E Edinburgh, LUTON Research Centre</td>
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<tr>
<td>13.00</td>
<td>Lunch</td>
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<tr>
<td>14.00</td>
<td>Keynote: Joy Mountford</td>
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<tr>
<td>15.00</td>
<td>Wrap-Up - Conference Finish at 15.30</td>
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**POSTERS / VIDEO / DOCTORAL CONSORTIUM**

**INTERACTIVE EXPERIENCE LABORATORY OVERVIEWS / PANELS / SCHOLARSHIPS**

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**Posters**

Posters will be on display throughout the main conference. Presenters will attend their posters during scheduled periods of the conference. Poster presentation is the main format for presenting late-breaking research results. The opportunity to interact with poster presenters will help delegates to develop and maintain their understanding and awareness of research trends in HCI.

**Submission Deadline:** May 10, 1999. Intending authors should contact: Gilbert Cockton (University of Sunderland) tel: +44 (0) 191 515 3394/2752 fax: +44 (0) 191 515 2781

**Contact:** Gilbert.Cockton @ sund.ac.uk

**Videos**

Submissions are invited that show novel user interface designs or systems that demonstrate innovative interaction features or techniques, or give glimpses into the future of HCI. Videotapes should be in the PAL or NTSC format with a duration of between 2 and 20 minutes.

**Submission Deadline:** May 10, 1999. Intending authors should obtain information from the INTERACT '99 web site. Additional enquiries to: Richard Coyne (University of Edinburgh) tel: +44 (0) 131 650 2332 fax: +44 (0) 131 650 8019

**Contact:** Richard.Coyne@ed.ac.uk

**Doctoral Consortium**

A two session Doctoral Consortium will take place on Monday 30th and Tuesday 31st.

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Thanks to generous support from the British HCI Group, research students accepted for participation in the Doctoral Consortium are entitled to free registration and accommodation. Please tick the appropriate box on the registration form if you are in this category.

**Further Information from:** Professor James Alty

**Contact:** J.L.Alt@lboro.ac.uk

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**Interactive Experience**

The Interactive Experience at INTERACT '99 will be a chance to get your hands on some of the newest work in HCI. It will take place throughout the day on Thursday 2nd September and will allow delegates to get hands-on experience of some of the latest in interactive systems and devices.

There is still time to submit a proposal for an exhibit at the Interactive Experience. The deadline for submission is 10
May, 1999. Proposals should consist of live demonstrations of experimental interactive systems, user interfaces or design aids. Where possible and appropriate, displays should offer opportunities for hands-on interaction, preferably without the assistance of a demonstrator. Items for the Interactive Experience will be selected on the basis of their novelty, technical or theoretical merit and relevance.

Deadline for submission: 10 May, 1999. Intending authors should contact the Conference Secretariat to obtain detailed instructions for submission. Additional enquiries to: Rob Procter (University of Edinburgh) tel: +44 (0) 131 650 5177 fax: +44 (0) 131 667 7209 mjp@ed.ac.uk

An invitation is extended to individuals with an interest in developing a panel session around a stimulating or controversial theme in the general field of HCI. Topics and/or themes for a panel session may also be proposed by individuals with an interest in chairing a panel on a topic that excites them. Preference will be given to those topics which raise forward-looking and/or contentious issues, and which will promote debate among panel members and involve the audience. All suggestions will be assessed with respect to topicality and suitability for generating stimulating debate.

Deadline for submission: 10 May, 1999. Intending authors should contact the Conference Secretariat to obtain detailed instructions for submission. Additional enquiries to: David Benyon (Napier University) tel: +44 (0) 131 455 5317 fax: +44 (0) 131 455 4552 d.benyon@dcs.napier.ac.uk

Panel

An invitation is extended to individuals with an interest in developing a panel session around a stimulating or controversial theme in the general field of HCI. Topics and/or themes for a panel session may also be proposed by individuals with an interest in chairing a panel on a topic that excites them. Preference will be given to those topics which raise forward-looking and/or contentious issues, and which will promote debate among panel members and involve the audience. All suggestions will be assessed with respect to topicality and suitability for generating stimulating debate.

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Panel 5

**Joy Mountford, What and how should we design?**

S. Joy Mountford joined Interval Research Corporation recently to manage a multi-media development project. Ms. Mountford had been the manager of the Human Interface Group at Apple Computer for nearly eight years. Before joining Apple, Joy worked at MCC, America's 5th generation computer consortium and prior to that she designed advanced user interfaces for military avionics systems at Honeywell. Her past research experience has focused on the application of technologies such as speech recognition and generation, intelligent systems, tactile controllers and head-mounted systems. At Apple her advanced development interface group was responsible for extending the user interface beyond current desktop applications. The Human Interface Group’s areas of interest and research included: audio and speech, 3-D design tasks, hand-held players, and the development of multi-media systems. The Human Interface Group, in AGT, were players in the evolution of QuickTime, Navigable Scenes, Bubble Help, AppleSearch and other consumer-based portable devices. Recently she has turned her attention towards the design of media SoundScapes that can be shared across the Internet. Joy has given a series of invited lectures and presentations worldwide using interactive multi-media demonstrations. She also initiated and continues to oversee Apple’s International Interface Design Project. This project has been a catalyst in setting up various interdisciplinary courses at Universities around the world. She also produced the “Art of Human-Computer Interface Design”, a major instructional interface text. Her personal interests included encouraging interface innovation in such applications as choreography, music, animation and performance art.

Joy’s graduate work was at the University of Illinois in Engineering Psychology, and her undergraduate work at University College London, London.
**Sunday 29th August**

**Tour to Scone Palace and Glenturret Distillery**

£43.00 per person

This tour travels north of Edinburgh to Scone Palace, a stately home of distinction where Kings of Scotland were crowned until 1651, followed by a visit to nearby Glenturret Distillery, the oldest single malt distillery in Scotland.

**Monday 30th August**

**Free Evening for Delegates attending Workshops/Tutorials**

**Optional ExcursionVisit to the Scotch Whisky Heritage Centre**

£16.00 per person

For those who wish to sample Scotland’s oldest and finest drink you should try this tour. The coach will collect delegates at the conference centre and take them to The Scotch Whisky Heritage Centre on Edinburgh’s Royal Mile.

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On arrival delegates will be introduced to the main attractions of the city. The tour will commence with a visit to Edinburgh Castle and a walk around these impressive historic buildings on a rock overlooking the city. The group will then drive down the Royal Mile where many buildings date from the 16th century including St Giles Cathedral, the City Chambers and John Knox House. The tour will pass White Horse Close before reaching Holyrood Palace, the Scottish home of the British Queen. The tour will then drive through the Georgian ‘new town’ with fine 18th century architecture and the monument of Sir Walter Scott as well as the splendid main street, Princes Street.

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**Tuesday 31st August**

**Visit to the Scotch Whisky Heritage Centre**

£16.00 per person

For those who wish to sample Scotland’s oldest and finest drink you should try this tour. The coach will collect delegates at the conference centre and take them to The Scotch Whisky Heritage Centre on Edinburgh’s Royal Mile.

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This is a half day excursion introducing visitors to the main attractions of the capital. The tour will commence with a visit to Edinburgh Castle and a walk around these impressive historic buildings on a rock overlooking the city. The group will then drive down the Royal Mile where many buildings date from the 16th century including St Giles Cathedral, the City Chambers and John Knox House. The tour will pass White Horse Close before reaching Holyrood Palace, the Scottish home of the British Queen. The tour will then drive through the Georgian ‘new town’ with fine 18th century architecture and the monument of Sir Walter Scott as well as the splendid main street, Princes Street.

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**Tuesday 31st August**

**The Highlands in Miniature**

£28.00 per person

This full day tour will leave Edinburgh and travel to Stirling where you will see the historic town around the castle and the view of the Forth Valley from the esplanade. Delegates will have the opportunity to visit the castle before driving to Callander, a busy tourist town with a museum to the legendary Rob Roy. From there the tour will continue its journey through the scenic area of the Trossachs and onto Loch Lomond where you will have the opportunity to walk in the attractive village of Luss before returning to Edinburgh via the motorway.

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**Wednesday 1st September**

**1830 - 2000**

**Reception**

Delegates and registered accompanying guests are invited to attend a drinks reception hosted by Academic Press celebrating the 30th anniversary of the International Journal of Human-Computer Studies. The reception will be held at the James Watt Centre.

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**Thursday 2nd September**

**Welcome Reception and Ceilidh at Edinburgh Conference Centre**

Delegates and registered accompanying guests are invited to attend the Conference Welcome Reception, hosted by Heriot-Watt University, which will be held in the Dining Room of the Edinburgh Conference Centre from 1930 hours. The reception will be followed by a ceilidh, a party with a truly Scottish flavour, including traditional music and dancing.

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**Wednesday 1st September**

**St Andrews and The Kingdom of Fife**

£28.00 per person

The tour will commence with a crossing over the River Forth by the modern Forth Road Bridge which has spectacular views over the century old rail bridge. The tour will drive through the agricultural county of Fife visiting the picturesque fishing villages of the east coast and finally reaching St Andrews, a seaside resort most famous as the home of golf. St Andrews is also the home of Scotland’s oldest university and you will have the opportunity to take a walking tour of the historic buildings. In the afternoon, the tour will visit Falkland Palace the favourite hunting home of Mary, Queen of Scots. You will also see the island in Loch Leven where she was held prisoner and from which she made a daring escape.

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**Thursday 2nd September**

**Glasgow**

£26.00 per person

The journey to Scotland’s largest city takes only an hour. On arrival you will tour through the old part of the city, known as the Merchant City, which has recently been redeveloped as a thriving area for shops and restaurants. The tour will visit the historic Glasgow Cathedral and then onto the Victorian city centre where you will see some of the architectural works of Charles Rennie Mackintosh including the masterpiece, Glasgow School of Art. During your visit to Glasgow you will have free time for shopping in the city’s malls including the Italian Centre and Princes Square before returning to Edinburgh.

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**Friday 3rd September**

**St Andrews and The Highlands in Miniature**

£28.00 per person

See entry for Tuesday 31st August
Set in Woodland and open spaces, the accommodation offered on campus is very comfortable. The bedrooms are of a very high standard and the campus is a community in itself with a range of amenities. The main attraction of the university accommodation is that it is within seconds of the Conference Centre which is very convenient for those early morning tutorials and workshops! The following categories of on-campus accommodation are available:

**Conference En-Suite Rooms**
Each room offers an en-suite shower and toilet, colour television and radio, hairdryer, tea and coffee making facilities and direct dial telephone.

**EARLY RESERVATION ADVISED** Campus accommodation is limited and will be allocated on a first-come, first-served basis.

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**H O T E L  A C C O M M O D A T I O N**

**The Caledonian Hotel****
This traditional hotel is situated in the heart of the city and is in close proximity to all attractions and amenities. The hotel which is on the splendid main street of Edinburgh’s, Princes Street, is a member of The Leading Hotels of the World and is only one mile from Waverley Station and eight miles from Edinburgh International Airport. The hotel has also recently opened a health club with a range of facilities.

- Single: £43.50 per night
- Double: £65.00 per night

**Ensuite Single Rooms**
Each room offers an en-suite shower and toilet. There is a guest lounge with colour television. Tea and coffee facilities are close by. Card-operated telephones are on each floor, and laundry facilities are available in the building.

- £39.00 per night

**Study Singles**
Each room has a handbasin. There are toilet and shower facilities to be shared between a maximum of seven guests. There is a lounge with colour television. Tea and coffee facilities are available close by. Telephones are in the foyers.

- £28.50 per night

**The Apex International ****
The Apex is situated in the heart of the Old Town in the shadow of Edinburgh Castle. The hotel is only ten minutes walk to Waverley Station and being in the heart of the Grassmarket, is only minutes to the Royal Mile which boasts a variety of shops and restaurants.

- Single: £125.00 per night
- Double: £165.00 per night

**Apex International****
This magnificent Georgian mansion is set in 1,000 acres of wooded countryside, lakes and streams. The Dalmahoy is only ten minutes drive from the Conference Centre and three miles from Edinburgh International Airport. The country club comprises a leisure club with all the usual facilities, spa bath, steam room, squash and tennis courts, feature pool as well as two 18 hole golf courses of which one is a championship course.

- Single: £125.00 per night
- Double: £165.00 per night

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**T R A V E L  T O  T H E  C O N F E R E N C E  C E N T R E:**

**By Air**
Edinburgh International Airport is only ten minutes from Edinburgh Conference Centre and is served by 11 major airlines. There are regular air services non-stop to Edinburgh from London (Heathrow, Gatwick and Stansted) and many other UK and European destinations. Flights from London all have world-wide connections although there are an increasing number of direct international flights to Edinburgh.

Delegates are advised to take a taxis from the airport to the conference centre and there is a taxi rank situated at the front of the airport.

- Edinburgh Airport Enquiries: +44 (0) 131 333 1000
- Glasgow International Airport: approximately 80 kilometres from Edinburgh. There are a number of direct flights from Europe, North America and other international destinations. Taxis from Glasgow to Edinburgh are relatively expensive (approximately £55.00) and are not recommended. Public transport from Glasgow to Edinburgh is strongly recommended with a bus service from Glasgow Airport to Edinburgh costing approximately £6.00. This journey by bus takes one and three quarter hours although the regular train service from Glasgow Queen Street to Edinburgh’s Haymarket and Waverley Station is faster and only takes 50 minutes.

**By Rail**
Waverley Station, Edinburgh’s main railway station, is at the east end of Princes Street, the city’s main street, and is well served by GNER, Virgin & Scotrail. There will be a Welcome Desk situated at Waverley Station to assist those delegates arriving by train.

Rapid rail services from London’s King Cross Station by GNER take approximately 4 hours and there are comprehensive train connections from other cities in the UK.

- Train Enquiries: 0345 484 950

**By Road**
From the centre of Edinburgh, follow signs to Heriot-Watt University from the bypass. The University is half a mile west from the clearly-signed Calder Junction of the dual carriageway A720 City Bypass, linking to the A90 and Forth Road Bridge for the Highlands, and the M8 and M9 for Western and Central Scotland.

The bypass connects with roads for the South and the M6, the A7 and A68 for the Borders, and the A1 for the East and South.

**By Bus**
Bus numbers 65 or 45 operated by Lothian Regional Transport, run from St Andrews Square to the Edinburgh Conference Centre, Riccarton Campus on weekdays. For evening services (and Saturday & Sundays) use bus number 22A. Services are every 30 mins.

- Lothian Regional Transport Bus Enquiries: +44 (0) 131 555 6363

**Conference Transport**
Coach transport will be provided from the conference hotels to the conference centre and from the conference centre to the city centre hotels at the end of each day’s session.

Transport will also be provided to and from all social functions.

**Welcome Desks**
There will be Welcome Desks situated at Edinburgh Airport and Waverley Railway Station open from 0830 to 1830 on Sunday, Monday and Tuesday.

Information about the location of the Welcome Desks will be posted on the conference website two weeks prior to the Conference.

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**EARLY RESERVATION ADVISED**

Owing to the high demand for hotel accommodation in Edinburgh, HOTEL RESERVATIONS SHOULD BE MADE BY 20 JUNE 1999. Thereafter, availability and reduced rates cannot be guaranteed.

**Website at:**
http://www.edinburgh.org & Lothians Tourist Board
Scotland’s historic Capital

Edinburgh is one of the great cultural, educational and financial capitals of Europe. It possesses a stunning cityscape, a wealth of historic buildings and 2,000 years of dramatic history. Today the city is booming, boasting a number of distinctive new buildings, such as the recently-opened addition to the National Museum of Scotland. In July Edinburgh will become home to Scotland’s first parliament since the Act of Union in 1707 combined the legislatures of Scotland and England.

Princes Street, the boundary between the elegant 18th century “New Town” and the picturesque and ancient “Old Town”, is overlooked by world-famous Edinburgh Castle, home of the Scottish Crown Jewels. The mediæval Royal Mile stretches from the Castle to the Palace of Holyrood House, full of associations with Mary Queen of Scots and her tumultuous reign.

During August and early September, the city bursts into vivid life as it hosts the largest and most varied collection of arts festivals in the world: the Edinburgh Arts Festival, the Festival Fringe, the Film Festival, the Book Festival and the Military Tattoo. Together, they offer the INTERACT delegate a splendid and unrivalled choice of cultural activities and entertainment before and during the conference.

Before or after INTERACT, take time to sample more of Scotland’s charms. Scotland is one of the most beautiful countries in the world with the immense variety of landscapes. The Highlands offer a wilderness of heather-clad mountains, glens, tranquil lochs - ideal for walking or pony-trekking. Combine this scenery with some historic sites by exploring our stately homes, ancient castles and prehistoric monuments.

Visit Glasgow, famous for its hospitality, excellent shopping and exceptional architecture, or Aberdeen, gateway to the Grampian mountains, or Inverness, capital of the Highlands. Don’t miss the delights of Scotland’s many inviting small towns where you can browse antique shops or look for something a little more Scottish, like cashmere, tartan, crystal, silverware and locally-produced handicrafts.

Finally, for the true flavour of Scotland, stop by one of the many Scottish distilleries for a tour and a “wee dram” of a fine malt whisky.

It is not as rainy here as in the West of Scotland, but bring an umbrella just in case!
Conference Registration Desk
Registration Desk will be situated in the main reception area of the Edinburgh Conference Centre, Heriot-Watt University, Riccarton Campus.

Registration - Tutorials and Workshops
Registration for tutorials and workshops will be as follows:
- 1400 - 1700 hours on Sunday 29th August 1999
- 0800 - 0900 hours on Monday 30th August 1999.

Conference Registration
Registration for Conference Delegates will take place from:
- 1500 - 1900 hours on Tuesday 31st August 1999.
and thereafter the opening hours will be from 0800 - 1700 hours on each day of the conference.

Banks and Currency Exchange
The United Kingdom’s currency is Pounds Sterling. Currency exchanges are available at:
- Edinburgh International Airport
- Edinburgh Waverley Station
- Glasgow International Airport.

Delegates will be able to exchange currency in most Edinburgh city centre banks.
For delegates staying on Campus, there is a Royal Bank of Scotland on campus. The bank is open:
- 0930-1530 hours Monday to Thursday
- 1000 - 1530 hours on Friday.

Ordering currency at the campus will take approximately 24 hours.
Travellers cheques can be used in shops and restaurants but only if they are in Pounds Sterling. Credit cards are also widely accepted in shops and restaurants.

Climate and Weather
In August/September, the temperature and weather is rather changeable. At the time of the conference the average high temperature in Edinburgh is around 17°C and the average low is around 9°C. The average rainfall for September is 57mm per month and delegates are therefore advised to bring a light rain jacket.

Official Language
The official language of the conference will be English. No translation service will be provided.

General Information

IfIP TC13 Meeting
There will be a meeting of IFIP Technical Committee 13 at the Conference Centre on Sunday 29th August at 4 pm. TC13 Members will be sent further details separately.

Exhibition
The conference will be accompanied by a small exhibition which will take place in the James Watt Centre.

Messages
Delegates and the Conference Secretariat may be reached via the Conference Registration Desk. A paging service will not be provided.

To leave messages via the Conference Registration Desk, telephone:
cell + 44 (0) 131 451 3117 or
fax + 44 (0) 131 451 3199.

Student Volunteers
Student volunteers will be assisting with all aspects of the conference. Contact Alison Cawsey for more details.

Child Care
There may be a small number of childcare places for the under 5s available next to the conference venue. Please contact the Conference Secretariat if you are interested in this facility.

Access for People with Disabilities
All areas of the Edinburgh Conference Centre have disabled access. There are bedrooms on campus adapted for disabled guests. Please notify the secretariat if you have any special requirements.

Travel Insurance
Delegates are recommended to take out travel insurance to cover the loss of any personal belongings or medical care required during their stay.

Passport and Visa Requirements
Delegates from countries outside the European Community are advised to contact the British Embassy in their home country for advice on entry visa requirements. Please be advised that the time required to process visa applications varies and delegates should also seek advice on this from the local embassy.

UK Electricity Supply
The UK electricity supply is 230V AC. Delegates from outside the UK who are bringing electrical equipment are advised to check if they will require power adapters.

IFIP Member Organisations
The British HCI Group, BPS, IEE, ACM SIGCHI, CHISIG, The Ergonomics Society, AFHIM, RAN, EUROGRAPHICS, IMAS and IFIP Member Organisations

Registration, payment and cancellation details
To register, please complete the registration form included within this document. If university accommodation is being reserved, delegates are required to pay the total balance for accommodation in advance. If hotel reservations are to be made, please ensure that you include the required first night, non-refundable deposit.

Please return the completed registration form, including all payments to the INTERACT ‘99 Secretariat at the following address:
INTERACT ‘99
Conference Secretariat
c/o Meeting Makers
Jordanhill Campus
76 Southbrae Drive
Glasgow, United Kingdom G13 1PP
Tel + 44 (0) 141 434 1500
Fax + 44 (0) 141 434 1519
Email interact@meetingmakers.co.uk

All registered delegates will receive confirmation of receipt of registration and an invoice/receipt by post.

Registration Fees Early Registration Fees (if registration form received before 2nd July 1999)
- Member Registration Fee* £395.00 (£336.17 + £58.83 VAT)
- Non Member Registration Fee £435.00 (£370.21 + £64.79 VAT)

Late Registration Fees (if registration form received after 2nd July 1999)
- Member Registration Fee* £495.00 (£421.28 + £73.72 VAT)
- Non Member Registration Fee £535.00 (£455.32 + £79.68 VAT)

Other Categories of Registration Fees
- Student Registration Fee* £250.00 (£212.77 + £37.23 VAT)
- Industry Day - One Day Fee £250.00 (£212.77 + £37.23 VAT)
- Tutorial Fee - Half Day £125.00 (£106.38 + £18.62 VAT)
- Workshop Fee - One Day £40.00 (£34.04 + £5.96 VAT)
- Workshop Fee - Two Day £80.00 (£68.09 + £11.91 VAT)
- Accompanying Persons Fee £29.00 (£24.68 + £4.32 VAT)
- Dinner - Delegate £30.00 (£25.53 + £4.47 VAT)
- Dinner - Non-Delegate £50.00 (£42.55 + £7.45 VAT)

*Please note that the members registration fee only applies to delegates who are members of the following organisations:
The British HCI Group, BPS, IEE, ACM SIGCHI, CHISIG, The Ergonomics Society, AFHIM, RAN, EUROGRAPHICS, IMAS and IFIP Member Organisations

To obtain a reduced registration fee, students are required to confirm their status by submitting a letter from their supervisor or department head with their registration form.

VAT
The delegate fee includes Value Added Tax (VAT), a form of sales tax, at 17.5%. After the conference, delegates may apply to UK Customs and Excise for recovery of the VAT element of their registration fee if they are from outside the UK or are paying via a UK organisation registered for VAT. The relevant VAT recovery application form and advice on how to claim will be supplied with the conference registration invoice/receipt.

We cannot guarantee that the VAT recovery will be successful nor can we apply on behalf of delegates. However, we will do our best to help delegates in the VAT recovery process. Please check the conference website for further information nearer the time of the conference.

Professional Development
Letters confirming attendance will be available from the conference desk. Please see payment section on booking form. Attendance at the conference may qualify for professional development credit points.

Payment Methods
The following methods of payment will be accepted:
- Credit Card
- Cheque

The following credit cards are accepted:- VISA MASTERCARD EUROCARD
Please note that American Express and Diners Card cannot be accepted.

Bankers Draft (Cashier’s Cheque)
Bankers Drafts can be purchased from any bank. The cheque should be written in POUNDS STERLING and made payable to INTERACT ‘99.

Eurocheque
Eurocheques will not be accepted for amounts over £300.00. If paying by Eurocheque, please use several cheques to make the total fee. The cheques should be written in pounds sterling and be made payable to INTERACT ‘99.

Personal or Company Cheque
Payment by personal or company cheque, drawn on a UK bank only, will be accepted. PLEASE NOTE THAT NO OTHER METHOD OF PAYMENT CAN BE ACCEPTED.

Cancellation
Notification of cancellation must be sent in writing to the Secretariat. Cancellations received before 30th July 1999 will be refunded minus an administration charge of 20% of the total registration fees. After this date, no refunds will be made.
REGISTRATION FORM

PLEASE COMPLETE USING BLOCK CAPITALS AND RETURN BY POST OR FAX TO:- Meeting Makers Ltd, Jordanhill Campus, 76 Southbrae Drive, Glasgow G13 1PP, Scotland, United Kingdom Fax: +44 (0) 141 434 1519

TITLE:  Professor/Dr/Mr/Mrs/Ms/Miss/Other

FIRST NAME: FAMILY NAME:

DEPARTMENT: ORGANISATION:

MAILING ADDRESS:  CITY:

COUNTY/STATE/PROVINCE: COUNTRY: POST/ZIP CODE:

TELEPHONE: FAX: EMAIL:

ACCOMPANYING PERSON (S) - covers admission to the ECC, Welcome Reception, Academic Press Reception

1. FIRST NAME: FAMILY NAME:

2. FIRST NAME: FAMILY NAME:

TUTORIALS AND WORKSHOPS Please write in the code for your selection (e.g. T1 , T2 )

<table>
<thead>
<tr>
<th>TUTORIALS</th>
<th>1st Choice</th>
<th>2nd Choice</th>
<th>1st Choice</th>
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<tbody>
<tr>
<td>Monday - full day</td>
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<tr>
<td>Monday - am</td>
<td>Tuesday - am</td>
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<td>Monday - pm</td>
<td>Tuesday - pm</td>
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Workshops Do not select a Workshop unless you are a bona fide participant

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<tr>
<th>WORKSHOPS</th>
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<tbody>
<tr>
<td>Monday - full day</td>
<td>Tuesday - full day</td>
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</table>

I hereby claim the member rate
Name of Organisation
Membership No

I hereby claim the student rate
A letter confirming my student status is enclosed

REGISTRATION FEES Tick one Registration box only

EARLY REGISTRATION FEES (if registration form received before 2nd July 1999)

- Member Registration Fee £395
- Non Member Registration Fee £435
- Student Registration Fee £250
- Student Accepted for Doctoral Consortium. You will not be charged for the Registration Fee. Enter ‘NO CHARGE’ on form.
- One Day Fee (Industry Day) £250

LATE REGISTRATION FEES (if registration form received after 2nd July 1999)

- Member Registration Fee* £495
- Non Member Registration Fee £535

I hereby claim the member rate
Name of Organisation
Membership No

I hereby claim the student rate
A letter confirming my student status is enclosed

SOCIAL PROGRAMME

- Scone Palace and Glenturret Distillery, Sunday 29th August £43.00
- Scotch Whisky Heritage Centre, Monday 30th August £16.00
- Welcome Reception, Tuesday 31st August Included in registration fee
- Reception, Wednesday 1st September Included in registration fee
- Conference Dinner, Thursday 2nd September, delegate ticket £30*
- Conference Dinner, Accompanying person, ticket x £50*

ACCOMPANYING GUESTS TOURS

- Edinburgh City Sightseeing - Tuesday 31st August £28.00
- The Highlands In Miniature - Tuesday 31st August £28.00
- St Andrews and The Kingdom of Fife - Wednesday 1st Sept £28.00
- Glasgow - Thursday 2nd September £26.00
- The Highlands in Miniature - Friday 3rd September £28.00

SUB TOTAL (Registration fees, Social Programme & Excursions)

* Conference Dinner includes VAT at 17.5% - see page 17 for details
**PAYMENT**

1. Please note all hotel rates are per room per night and are inclusive of full Scottish Breakfast and VAT at 17.5%
2. For campus accommodation, please include full payment of your booking with your registration form.
3. For hotel accommodation, please indicate your choice below. Please include your non-refundable 1st night deposit. This deposit is the cost of 1 night's accommodation in a single or double/twin room and will be forwarded to your designated hotel in advance of your stay. This deposit will be credited to your final bill.

   Campus accommodation is limited and will be allocated on a first-come, first-served basis. Early application is therefore strongly advised. To be sure of hotel accommodation, forms should be returned before 20 June 1999. After this date hotel accommodation cannot be guaranteed.

**CAMPUS ACCOMMODATION**

<table>
<thead>
<tr>
<th></th>
<th>Arrival Date:</th>
<th>Departure Date:</th>
<th>Total Number of nights:</th>
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<tbody>
<tr>
<td>Conference En-Suite Room</td>
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<tr>
<td>Single: £43.50 Double/Twin:</td>
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<td>£65.00</td>
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<tr>
<td>Study En-Suite Single Room</td>
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<td>£39.00</td>
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<tr>
<td>Study Single Room</td>
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<tr>
<td>£28.50 per night</td>
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**HOTEL ACCOMMODATION**

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<th>Arrival Date:</th>
<th>Departure Date:</th>
<th>Total Number of nights:</th>
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<tbody>
<tr>
<td>Caledonian Hotel *****</td>
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<tr>
<td>Marriott Dalmahoy Hotel &amp; Country Club****</td>
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<tr>
<td>Apex International***</td>
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**HOTEL RATES** per person/per night

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<tr>
<th></th>
<th>Single Room</th>
<th>Twin/Double Room</th>
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<tbody>
<tr>
<td>Caledonian Hotel *****</td>
<td>£155 per night</td>
<td>£230 per night</td>
</tr>
<tr>
<td>Marriott Dalmahoy Hotel &amp; Country Club****</td>
<td>£126 per night</td>
<td>£165 per night (Double Room only)</td>
</tr>
<tr>
<td>Apex International***</td>
<td>£85 per night</td>
<td>£120 per night</td>
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</table>

**PAYMENT**

**REGISTRATION FEES**

A charge of 1.6% will be added to credit card payments.

**SOCIAL PROGRAMME & EXCURSIONS**

**CAMPUS ACCOMMODATION** (full amount due)

**HOTEL ACCOMMODATION** (first night deposit due)

**PAYMENT BY CREDIT CARD** (This is preferred method of payment)

Unfortunately no other credit card can be accepted. All Credit Card charges will be assessed in Pounds Sterling on the day of receipt of registration. A charge of 1.6% will be added to credit card payments.

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<th>Credit Card Number:</th>
<th>Expiry Date:</th>
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**Signature:**

**Billing Address of Card Holder**

(if different from registration details):

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<tr>
<th>CITY:</th>
<th>COUNTY/STATE/PROVINCE:</th>
<th>COUNTRY:</th>
<th>POST/ZIP CODE:</th>
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**PAYMENT BY CHEQUE OR BANK DRAFT** Please complete cheque or bank draft in Pounds Sterling, made payable to “INTERACT ’99”.

Cancellation charges: Cancellations received before 30th July will be refunded minus an administration charge of 20% of total fees. After this date no refunds will be made.

**Signature:**

**Evidence of Participation**

I would like to receive a confirmation of attendance. Please tick and this will be available to collect at conference registration desk.

**Dietary Requirements**

Please state here any special dietary requirements: