

ES
99

CAMBRIDGE U.K. 13-15 DEC 99



*Information and
Registration Leaflet*

19th SGES International Conference

on

Knowledge Based Systems and Applied Artificial Intelligence

13-15 December 1999

Peterhouse College, Cambridge, UK

**Technical Keynote Address to be given by
Professor Yorick Wilks, University of Sheffield, UK**

**Application Keynote Address to be given by
Dr Chris Winter, Cyberlife Technology Ltd, UK**

**Computers and Thought Award Lecture to be given by
Professor Nick Jennings, Queen Mary and Westfield College, University of London, UK**

This conference qualifies for the IEE and BCS CPD Schemes

For further details see <http://www.bcs-sges.org>

Co-sponsored by:

The Institution of Electrical Engineers
Scottish Enterprise
Hewlett Packard
British Airways
North West Artificial Intelligence Applications Group

Endorsed by:

The Information Society Initiative of
The Department of Trade and Industry
The Engineering and Physical Sciences Research Council
Council of European Professional Informatics Societies
European Coordinating Committee for Artificial Intelligence



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INTRODUCTION

ES99 is the nineteenth Annual International Conference of the British Computer Society's Specialist Group on Knowledge Based Systems and Applied Artificial Intelligence (SGES). The two principal aims of the Conference are to review recent technical advances in knowledge-based systems technology and to show how this leading edge technology has been applied to solve business problems. To meet these objectives, ES99 has a number of parallel sessions on both the technology and applications. The programme also includes tutorials to provide greater depth in selected topics, a workshop on a significant current AI area of interest, an event showcasing AI demonstrators and an exhibition of leading AI tool and software providers. We are confident that ES99 has the widest possible appeal to the industrial, commercial and academic communities throughout Europe.

TWO-DAY CONFERENCE

The papers in both the Technical and Application Streams have been selected through a rigorous process of refereeing. The papers in the Application Track have been chosen to reflect the practical issues of applying the technology to real world problems. Papers from both tracks will be published as separate volumes of the Conference proceedings – Research and Development in Intelligent Systems XVI and Applications and Innovations in Intelligent Systems VII.

WHO SHOULD ATTEND?

The Conference is aimed at those who wish to update themselves with news and views of recent developments, understand how other groups are applying the technology and exchange ideas with leading international experts in the field. Our goal, as always, is for ES99 to be a meeting place for the international knowledge based systems community. The two-track Conference, the Tutorials, Workshop and Exhibition are designed to provide a wide range of options for delegates, whether they are newcomers to the technology or seasoned practitioners. The social programme provides an opportunity to relax, meet old friends and make new contacts.

TUTORIALS & WORKSHOPS

ES99 is supported by a number of workshops, tutorials and other events, to be held on Monday 13 December:

Workshop on Using AI to Enable Knowledge Management

Tutorial on Intelligent Virtual Environments and Virtual Agents

Tutorial on Knowledge Bases for III-Structured Knowledge

**Smart Software for Decision Makers Event –
"Practical Application of Artificial Intelligence"**

KEYNOTE ADDRESSES

TECHNICAL KEYNOTE ADDRESS: *"Information Retrieval, Extraction and Summarisation"*

Prof. Yorick Wilks (University of Sheffield)

This address will distinguish information detection or retrieval (IR) from information extraction (IE) and describe recent advances in using IE technology for fast access to very large amounts of textual information in, for example, the world wide web. This technology is now becoming available commercially, with promising applications in security, publishing, communications, finance, science and patents. Professor Wilks will describe a number of Language Engineering projects incorporating IE technology, as well as outlining the problems in advancing the field, including an appropriate interface, the modelling of the users' needs and automatic adaptation of such systems to new domains.

YORICK WILKS is Professor of Computer Science at the University of Sheffield and Director of ILASH, the Institute of Language, Speech and Hearing. Previous posts include Professor of Computer Science and Linguistics at the University of Essex and Director of the Computing Research Laboratory at New Mexico State University. He currently works in the areas of information extraction from text sources, computational pragmatics, and the automatic of linguistic resources such as lexicons and grammar.

APPLICATION KEYNOTE ADDRESS: *"Re-inventing the Dream"*

Dr Chris Winter (Cyberlife Technology Ltd)

The keynote address will call on the AI community to rediscover the big dream of human intelligence. Approaching this original goal of Artificial Intelligence could offer valuable advantages to industry. Drawing on his varied background, Dr Winter will discuss the use of innovative technological methods and approaches that could lead to real advances and important practical applications.

CHRIS WINTER is the Development Director at Cyberlife Technology Ltd, a company using a mix of AI and AL techniques in the games, defence, bio-technology and other industries. Chris has enjoyed a varied career, covering many branches of technology and telecommunications. He graduated in Biochemistry from Oxford University in 1980 and gained a doctorate in Solid State Physics in 1982. He joined the BT Laboratories at Martlesham Heath in 1985, and in 1991 he founded BT's Artificial Life research program. In 1996 he set up a new research group at BT to find radical ways to change software design, build intelligent systems and provide new services. He was made a Visiting Industrial Professor of Cybernetics at Reading University in 1997. He joined Cyberlife Technology in 1998. Chris has frequently presented to the press, TV and radio, and has published over 70 papers and patents on various aspects of information technology.

COMPUTERS AND THOUGHT AWARD LECTURE: *"Agent-Based Software Engineering"*

Prof. Nick Jennings (Queen Mary & Westfield College)

NICK JENNINGS is head of the Intelligent Systems Group in the Department of Electronic Engineering at Queen Mary and Westfield (QMW) College (University of London). He carries out applied and basic research into a broad range of issues related to the deployment of agent technology in real-world applications. He has designed and built agent-based applications for the following domains: telecommunications network management, business process management, electricity management, patient care, digital libraries, electronic commerce, data interpretation and process control. He has also made a number of contributions to the study of agent interactions including: social rationality, co-operation, co-ordination, negotiation and argumentation.

Nick has been an invited lecturer at numerous national and international conferences related to agent systems, he has initiated and co-chaired two major international conferences (The Practical Application of Agents and Multi-Agent Systems (PAAM 96) and Autonomous Agents (AA97)), and has initiated and co-chaired the Agent Theories, Architectures and Languages Workshop series. He was the recipient of the Computers and Thought award in 1999 for his contribution to practical agent architectures and applications of multi-agent systems (this is the first time in the award's 30 year history that it has been awarded to a European). He has published over 100 articles on various facets of agent-based computing, written one monograph, and co-edited four books. He is the editor in chief of the International Journal of Autonomous Agents and Multi-Agent Systems. This is a second presentation of the Computers and Thought Award Lecture, first given at IJCAI in Stockholm in September 1999.

TUTORIALS AND WORKSHOPS

ES99 is supported by a range of tutorials and workshops, to be held on Monday 13 December. The workshop presenters are all technical authorities in their own right. Delegates will find these events to be especially valuable where there is a current need to consider the introduction of new AI technologies into their own organisations

Full Day Workshop

USING AI TO ENABLE KNOWLEDGE MANAGEMENT

Ian Watson, (Salford University), John Gordon, (North West Artificial Intelligence Application Group), Ann Macintosh, (Napier University)

Enterprises are realising how important it is to “know what they know” and be able to make maximum use of their knowledge. This knowledge resides in many different places such as: databases, knowledge bases, filing cabinets and people’s heads and is distributed right across the enterprise.

Artificial Intelligence and Knowledge Engineering in particular have come a long way towards addressing the use of a company’s knowledge assets. They provide disciplined approaches to designing and building knowledge-based applications. This workshop will explore how these methods and tools can be extended to support the processes for managing knowledge at all levels within the organisation.

This workshop is open to members of the AI and Knowledge Management communities (both industry and academic) who are attending the two day conference. Those wishing to apply to attend should see the information on the conference web site. A small charge will be levied to cover lunch and refreshments. Attendance will be strictly limited, and early booking is recommended.

Half Day Tutorial (14.30-17.30)

KNOWLEDGE BASES FOR ILL-STRUCTURED KNOWLEDGE

Dr Andrew Basden (University of Salford)

This tutorial, which builds on Dr Basden’s tutorial at ES98, covers three areas related to ‘classic’ knowledge based systems: knowledge acquisition, knowledge refinement and visual knowledge representation languages. Its slant is towards ill-structured knowledge, that is knowledge that cannot be acquired easily. Sometimes there are no true experts, sometimes knowledge is being used in new ways, sometimes a completely new approach to the application is being established – all making the knowledge ill-structured. Building knowledge bases becomes more like creative design than programming. This tutorial will suggest and explain strategies suited to such knowledge, and will link them to underlying theory.

Full Day Tutorial

INTELLIGENT VIRTUAL ENVIRONMENTS AND VIRTUAL AGENTS

*Ruth Aylett (Centre for Virtual Environments, University of Salford)
Daniel Ballin (Future Technologies Division, BT Laboratories)*

This tutorial will review the current state of the art and examine how other disciplines are used in the creation of autonomous life-like virtual characters such as virtual humans. It will cover the architectural paradigms of behavioural and hierarchical virtual agents and show examples of both. The concept of virtual sensors and how a user fits into a virtual agent system will be explained, as well as the rapidly growing number of applications.

Attendees will come away with an understanding of the field of intelligent virtual environments and intelligent virtual agents; what they are and what they’re good for.

No specific prerequisites are needed beyond general literacy in computer and information sciences, as fundamental concepts will be introduced. However familiarity with the fields of virtual reality, and artificial intelligence would be helpful.

Full Day Event

“PRACTICAL APPLICATION OF ARTIFICIAL INTELLIGENCE” DTI Smart Software for Decision Makers (SSDM) Initiative

The DTI SSDM Initiative aims to encourage the take up of AI technologies in UK industry and commerce.

Two technology clubs were established under SSDM in March 1998. These clubs have sponsored a number of demonstrator projects, undertaken jointly by member organisations and AI technology providers. The demonstrators have addressed real business problems, and have embraced a broad range of application domains and technologies.

SSDM will host an event at ES99, which will be open to all ES99 delegates, free of charge (including lunch and refreshments). It will feature reviews and demonstrations of a selection of the clubs’ demonstrators and a panel discussion on the practical and business problems of getting AI based systems into operation. Attendance at this event will provide delegates with an under-standing of practical successes and challenges in implementing real AI based systems, and will offer the opportunity to discuss these issues with others.

TIMETABLE

TUTORIALS & WORKSHOPS

TWO-DAY CONFERENCE

MONDAY, 13 DECEMBER	TUESDAY, 14 DECEMBER	WEDNESDAY, 15 DECEMBER
08.30 Registration & Refreshments	08.30 Registration & Refreshments	08.30 SGES Annual General Meeting
09.30 Workshop, Tutorial – and	09.00 Welcome Plenary Session	09.00 Plenary Session
13.00 SSDM Event	09.15 Technical Keynote Address	09.15 Application Keynote Address
	10.00 Best Refereed Technical Paper	10.00 Best Refereed Application Paper
	10.45 Refreshments	10.45 Refreshments
	11.15 Session 1 Technical papers Application papers	11.15 Session 4 Technical papers Application papers
13.00 LUNCH	12.45 LUNCH	12.45 LUNCH
	13.45 Exhibitor Presentations	13.45 Exhibitor Presentations
14.30 Workshop, Tutorials – and	14.30 Session 2 Technical papers Application papers	14.30 Session 5 Technical papers Application papers
17.30 SSDM Event	16.00 Refreshments	16.00 Refreshments
	16.15 Session 3 Technical Papers Application Papers	16.15 Best Presentation Award
	17.45 BREAK	16.30 CLOSE
18.30 Welcome Reception	18.00 Computers and Thought Lecture	
	20.00 Gala Dinner	

CONFERENCE CONTENT

APPLICATION STREAM

TUESDAY, 14 DECEMBER

SESSION 1 (KNOWLEDGE AND PROCESS MANAGEMENT)

Practical Approaches to Knowledge Management
J. Gordon (N.W.A.I.A.G, UK), C. Smith (Liverpool John Moores University, UK), S. Scott (British Aerospace, UK), I. McBriar (ICI, UK), S. Walbank (ICL, UK), G. Bain (North West Water, UK), P. Unsworth (TDS CAD Graphics, UK)

A review of practical data management approaches in a range of organisations.

Capability Modelling and Knowledge Management
J. Stader (AIAI, UK) and A. Macintosh (Napier University, UK)
A software system for supporting capability management.

A Multi-Agent System for Emergent Process Management
J. Debenham (University of Technology, Sydney, Australia)
Business process management using agents.

Creating Knowledge Maps by Exploiting Dependent Relationships
J.L. Gordon (N.W.A.I.A.G, UK)
Methodology for structuring and exploring knowledge.

SESSION 2 (ENGINEERING APPLICATIONS)

Towards The Application of CBR to Decision-Making in Concurrent Product Development (Concurrent Engineering)
B.U. Haque, R.A. Belecheanu, R.J. Barson and K.S. Pawar (University of Nottingham, UK)
Decision support in new product development.

CBR Systems for Interpretation of Eddy-Current and Ultrasonic NDT Data
J. Jarmulak (Robert Gordon University, UK)
Use of CBR to improve non-destructive testing analysis.

Improved Modelling and Control of Oil and Gas Transport Facility Operations Using AI
M. Neuroth and P. Vamplew (AMEC Process and Energy, UK), P. MacConnell and F. Stronach (University of Aberdeen, UK)
Application of neural network and fuzzy logic to oil and gas transport.

AI Planning - Solutions for Real World Problems
R.S. Aylett and G.J. Petley (University of Salford, UK), P.W.H. Chung, B. Chen and D.W. Edwards (Loughborough University, UK), J. Soutter (British Gas, UK)
Application of planning techniques in the chemical engineering domain.

SESSION 3 (DECISION SUPPORT APPLICATIONS)

Real Time Tactical Decision Support For A Naval Helicopter
A. McLachlan, R. Thorn, P. Millington and D. Pears (Logica UK Ltd)
Knowledge Based System for military decision support.

Case-Based Reasoning for Nutritional Consulting
M.A.L. Thé and R.C. Bell (University of Waterloo, Canada), K.G. Camargo, R. Weber, A. Martins and R.M. Barcia (University of Santa Catarina, Brazil)
Prescribing a nutritional therapy using CBR.

Data Mining at the West Midlands Police: A Study of Bogus Official Burglaries
R. Adderley (West Midlands Police, UK), P.B. Musgrove (University of Wolverhampton, UK)
Application of Kohonen maps to support crime investigation.

Using Data Mining to Improve Clinical Decision Support
K.E. Burn-Thornton, J. Attenborough and S.I. Thorpe (Plymouth University, UK)
Data mining to support heart disease diagnosis.

WEDNESDAY, 15 DECEMBER

APPLICATION KEYNOTE ADDRESS

"Re-inventing the Dream"
Dr Chris Winter (Cyberlife Technology Ltd, UK)

BEST REFEREED APPLICATION PAPER

Sky's The Limit, A Personal TV Listings Service for the Digital Age
B. Smyth and P. Cotter (University College Dublin, Eire)
Use of multiple artificial intelligence techniques to provide an effective personalised TV guide

SESSION 4 (SUPPORT APPLICATIONS)

Multiple Algorithms for Fraud Detection
R. Wheeler (Starlab Research Laboratories, UK), S. Aitken (AIAI, UK)
Case based reasoning using adaptive algorithms to detect fraud.

Applied Artificial Intelligence: A Risk Management Problem in Trade Finance
S. Dalton (Open University, UK)
Rule induction to reduce risk in financial decision making.

Pipeline Intermodal System to Support Control, Expedition and Scheduling
F. Arshad, A. El-Rhalibi and G. Kelleher (Liverpool John Moores University, UK)
Traffic scheduling using genetic algorithms and constraint satisfaction techniques.

SHAMASH A Knowledge-Based System for Business Process Engineering
D. Camacho, R. Aler, D. Borrajo, I. Giraldez and A. Sierra (Universidad Carlos III de Madrid, Spain)
Knowledge based support to process modelling.

SESSION 5 (ENGINEERING AND MANAGEMENT APPLICATIONS)

Condition Monitoring of Ground Anchorages Using an Artificial Neural Network and Wavelet Techniques
A. Starkey, J. Penman and A.A. Rodger (University of Aberdeen, UK)

Application of ANNs in civil engineering.

An Intelligent Control System for Fabrication of Optical Filters
D.A. Linkens and M.F. Abbod (University of Sheffield, UK), J. Metcalfe (Marconi Tech Centre, UK)

Neuro-fuzzy rule based system and genetic algorithms to reduce manufacturing errors.

Neuro-Fuzzy and Regression Techniques for CNC Thermal Error Compensation
W. Dixon, Q. Mehdi, N. Gough and J. Pitchford (University of Wolverhampton, UK)

Comparison of techniques for reducing machining errors.

AI-Based Speed Transducerless Control of Electromechanical Drives
F. Stronach and P. MacConnell (University of Aberdeen, UK)
Fuzzy logic and neural network solutions for speed estimation.

CONFERENCE CONTENT

TECHNICAL STREAM

TUESDAY, 14 DECEMBER

TECHNICAL KEYNOTE ADDRESS

Information Retrieval, Extraction and Summarisation

Prof. Yorick Wilks (University of Sheffield, UK)

BEST REFEREED TECHNICAL PAPER

The KRAFT Architecture for Knowledge Fusion and Transformation

A. Preece and K. Hui (University of Aberdeen, UK), A. Gray and P. Marti (Cardiff University, UK), T. Bench-Capon and D. Jones (University of Liverpool, UK) and Z. Cui (BT Labs., UK)

Combining knowledge from disparate sources

SESSION 1: LEARNING

Sequencing Training Examples for Iterative Knowledge Refinement

N. Wiratunga and S. Craw (Robert Gordon University, UK)

Improving search efficiency of backjumping KRUST Tools

Multistrategy Relational Learning of Heuristics for Problem Solving

D. Borrajo and D. Comacho (Universidad Carlos III de Madrid, Spain) and A. Silva (Universidad Politecnica de Madrid, Spain)

Combining an analytical learning strategy with an inductive strategy for incremental refinement of learned knowledge

Learning Perceptual Schemas to Avoid the Utility Problem

P. Lane, P. Cheng and F. Gobet (University of Nottingham, UK)

Incorporating experts' representations into machine learning systems

Extracting Constraint Knowledge from Code: A Case-Based Reasoning Approach

A. Broad and N. Filer (University of Manchester, UK)

A system for understanding constraints in EXPRESS information models

SESSION 2: KNOWLEDGE DISCOVERY

Automatic Induction of Classification Rules from Examples Using N-Prism

M. Bramer (University of Portsmouth, UK)

Deriving classification rules from noisy data

Learning Lazy Rules to Improve the Performance of Classifiers

K.M. Ting, Z. Zheng and G. Webb (Deakin University, Australia)

Improving on the performance of naive Bayesian classification

Algorithms for Computing Association Rules Using a Partial-Support Tree

G. Goulbourne, F. Coenen and P. Leng (University of Liverpool, UK)

Generating and using set enumeration trees

Discovering Surprising Patterns by Detecting Occurrences of Simpson's Paradox

C.C. Fabris (CEFET-PR, Brazil) and A.A. Freitas (PPGIA-CCET, Brazil)

A data mining algorithm for discovering interesting knowledge

SESSION 3: CASE BASED REASONING

Automating Case Selection in the Construction of a Case Library

D. McSherry (University of Ulster, UK)

Evaluating the coverage contribution of candidate cases

SESSION 3: CASE BASED REASONING *cont.:*

Improving a Distributed Case Based Reasoning System Using Introspective Learning

I. Watson (University of Salford, UK) and D. Gardingen (Western Air Ltd, Australia)

Development of the 'Really Cool Air' system

Structured Cases in CBR - Reusing and Adapting Cases for Timetabling Problems

E. Burke, S. Petrovic, R. Qu and B. MacCarthy (University of Nottingham, UK)

Using attribute graphs for structural representation

Roget's Thesaurus: An Additional Knowledge Source for Textual CBR?

J. Ellman and J. Tait (University of Sunderland, UK)

Comparing text similarity using lexical chains

WEDNESDAY, 15 DECEMBER

SESSION 4: KNOWLEDGE ENGINEERING

Knowledge Management Through Multi-Perspective Modelling: Representing and Distributing Organisational Memory

J. Kingston (University of Edinburgh, UK) and A. Macintosh (Napier University, UK)

Representing an organisation's 'knowledge assets'

Ontology Assisted Process Knowledge Acquisition

H. Cottam and N. Shadbolt (University of Nottingham, UK)

Towards a structured process elicitation and demonstration environment

Web-Mediated Knowledge Servers: Some Technical Issues

A. Basden (University of Salford, UK)

Delivering knowledge based systems over the world wide web

CAPE: Extending CLIPS for the Internet

R. Inder (University of Edinburgh, UK)

Identifying and co-ordinating the use of external knowledge sources

SESSION 5: KNOWLEDGE REPRESENTATION AND REFINEMENT

An Approach to Active Knowledge-Based Scene Exploration

U. Ahlrichs, J. Fisher, D. Paulus and H. Niemann (Universität Erlangen-Nuernberg, Germany)

Combining a semantic network formalism for the representation of task specific knowledge with camera actions

Object Location in Colour Images Using Fuzzy Scanpaths and Neural Networks

M. Allen et al. (University of Wolverhampton, UK)

Development of a machine vision system to capture data relating to an object's environment

An Algebraic Automated Prover and Verifier for KBS. Application to Computer Network Selection

L.M. Laita, E. Roanes-Lozano, A. Esteban (Universidad Politecnica de Madrid, Spain), E. Roanes-Macias (Universidad Complutense de Madrid, Spain)

The case for many-valued logic in knowledge representation

Qualitative Reasoning with Complex and Composite Regions in 2D Space

A. Abdelmoty and B. El-Geresy (University of Glamorgan, UK)

A general approach for the representation of topological relations amongst and reasoning over regions in space

.... MORE INFORMATION

ES99 Conference Committee

Dr Frans Coenen	University of Liverpool (Conference Chairman)
Dr Robert Milne	Intelligent Applications Ltd (Deputy Conference Chairman)
Mr Richard Ellis	Crew Services Ltd (Application Programme Chair)
Mr Mike Moulton	University of Portsmouth (Deputy Application Programme Chair)
Professor Max Bramer	University of Portsmouth (Technical Programme Chair)
Mrs Ann Macintosh	Napier University (Deputy Technical Programme Chair)
Dr Ian Watson	University of Salford (Tutorial and Workshops)

VENUE

Peterhouse College, founded in 1284, and its hall, built between 1286 and 1290, was the first collegiate building in Cambridge. Peterhouse Gardens achieved fame between 1830 and 1930 as the smallest deer park in England, and still provides a peaceful haven (December weather permitting!). Located in the centre of Cambridge, the college combines historic buildings with modern conference facilities, within easy reach of the shopping and entertainment of Cambridge.

THE EXHIBITION

As in previous years we are keen to provide a Conference with the widest possible interest and greatest value to the delegates. The suppliers of products and services are essential members of the KBS community in the UK, and the conference programme can only benefit from the demonstrations and hands-on opportunities provided by an Exhibition. A tabletop Exhibition will run alongside the Conference. There will be a limited number of spaces available and potential exhibitors are encouraged to book early. The exhibition package includes:

- Display space (approx 2m²) with table, chairs and power points
- Lunches and refreshments daily

A promotional literature service is also available.

For further details, contact Frans Coenen
(f.coenen@csc.liv.ac.uk Tel: +44 (0) 151 794 3698)

ACCOMMODATION

The conference has booked student bedrooms (shared facilities) at Peterhouse College. These can be booked using the registration form and will be allocated on a first come, first served basis. A list of alternative accommodation is available from the Conference Secretariat.

There are a limited number of passes for free parking at the college available on a first come, first served basis. Indicate on the registration form if required.

WELCOME RECEPTION & GALA DINNER

Delegates are invited to attend a Welcome Reception on the evening of Monday 13 December 1999. The Reception will be held in the exhibition area and will be an ideal opportunity to meet up with old friends and colleagues and make new ones. The Gala Dinner will be held on the evening of Tuesday 14 December and will take place in Peterhouse Hall which is the oldest college building in Cambridge. The Mayor of Cambridge, Councillor Richard Smith and Mrs. Val Smith will be our guests.

SGES/ECCAI MEMBERSHIP DISCOUNTS

Paid up members of SGES as at 31 October 1999 are entitled to register for ES99 at a reduced rate.

Paid up members of other ECCAI societies as at 31 October 1999 may register for ES99 at the SGES members' rate. Evidence of membership should be sent with the registration form.

Those paying the non-members' rate for attendance at the Two Day conference will be given a year's free membership of SGES ending on December 31 2000 and will thus qualify for the members' rate for ES2000.

STUDENTS

There are a limited number of places at a special rate for bona fide research students, available on application. Special group discounts and day delegate rates may also be available. Contact the Conference Secretariat for further details.

CANCELLATIONS

Fees will be refunded in full for cancellations received at least six weeks prior to the event. Cancellations received more than 28 days and less than six weeks prior to the event will attract a 20% administration charge. No refund will be made for cancellations received less than 28 days prior to the event. However substitutions may be made at any time.

PROCEEDINGS

The proceedings will be published by Springer-Verlag. A limited number of copies of the bound set will be available for purchase by non delegates once the Conference has closed.

AWARDS AND SPONSORSHIP

Our thanks to British Airways and Hewlett Packard, who will once again be sponsoring the prizes for the best submitted application and technical papers. Winners of the best submitted papers have been invited by the Conference Committee to give extended presentations of their papers, at which time they will be presented with their prizes.

A prize will also be presented for the best presentation at the conference. The North West Artificial Intelligence Application Group have kindly agreed to sponsor this prize.

Once again, the conference is endorsed by the DTI and EPSRC, along with ECCAI and CEPIS. Thanks also to the IEE and Scottish Enterprise for their generous support.

Method of Payment

FULL PAYMENT OF THE REGISTRATION FEE MUST ACCOMPANY REGISTRATION FORM

Please submit one form for each delegate. Photocopies of a blank form may be used.

- Cheques should be made payable to SGES and drawn in sterling on a UK bank.
- Bank transfers in sterling should be paid to their account at:
Lloyds Bank, Langham Place
324-326 Regent Street, London W1R 5AA
Bank Sort Code 30-94-87 Account no : 0324703
NB There is an additional charge of £10 for overseas sterling bank transfers

- Sterling Bank Drafts should be used by delegates wishing to attend from countries with currency restrictions.

Please quote **ES99** and the **name of the delegate and company** on all transactions.

THE REGISTRATION FORM IS AN INVOICE AND WILL BE RETURNED TO YOU AS AN OFFICIAL VAT RECEIPTED INVOICE WHEN PAYMENT HAS BEEN RECEIVED AND THE DELEGATE NUMBER ALLOCATED. NO OTHER FORM OF INVOICE WILL BE ISSUED.

Conference Invoice and Registration Form

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ES99

Cambridge, UK : 13-15 December 1999

Return to: Conference Secretariat ES99
Department of Computer Science
The University of Liverpool
Chadwick Building
Peach Street
Liverpool L69 7ZF, UK
F.A.O. Thelma Williams

Tel: +44 (0)151 794 3666
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SGES MEMBERSHIP NO EMAIL

OTHER ECCAI SOCIETY
NAME/MEMBERSHIP NO

Payment enclosed by cheque, in pounds sterling, made payable to **SGES** and drawn on a UK bank

Payment is being made by Bank Transfer on *(date)*

On receipt of payment your form will be numbered, stamped and returned as confirmation of your place at the Conference.

Note: This will become a formal paid VAT invoice only when a delegate number has been assigned.

For office use only:

Delegate no.

Tax point

PLEASE COMPLETE BOTH SIDES OF THIS FORM

SGES – the BCS Specialist Group on Knowledge Based Systems and Applied Artificial Intelligence

The SGES is one of Europe's longest established groups working to support the community of artificial intelligence developers and users. In addition to the Annual Conference, membership of the SGES provides access to a wealth of technical information, including monthly information packs, workshops, local events, special interest groups and more.

You do not need to be a member of the British Computer Society to join the SGES.

Details of membership benefits can be obtained from:
<http://www.bcs-sges.org> or sges-membership@bcs.org.uk

ES99 – Further Information and Enquiries

Enquiries should be addressed to Thelma Williams

Conference Secretariat ES99
 Department of Computer Science
 The University of Liverpool
 Chadwick Building
 Peach Street
 Liverpool L69 7ZF, UK

Tel: +44 (0)151 794 3666
 Fax: +44 (0)151 794 3715
 Email: sges-conference@bcs.org.uk

ES99 Conference Invoice and Registration Form

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For each of the following options please tick your status/choice and complete the amount due column only. VAT is charged at 17.5%.	COST	AMOUNT DUE	FOR OFFICE USE ONLY
Two Day Conference Fee on or before 12 November 1999 <input type="checkbox"/> Non-Member <input type="checkbox"/> SGES/ECCAI Member <input type="checkbox"/> Student Rate	£395 £325 £50		
Payment received after 12 November 1999 <input type="checkbox"/> Late payment penalty	£60		
Additional Options for Monday 13 December 1999 <input type="checkbox"/> One Day Tutorial on Intelligent Virtual Environments and Virtual Agents <input type="checkbox"/> Half Day Tutorial on Knowledge Bases for Ill-Structured Knowledge <input type="checkbox"/> One Day Workshop on Using AI to Enable Knowledge Management <input type="checkbox"/> DTI SSDM Event: "Practical Application of Artificial Intelligence"	£160 £80 £30 FREE		
To Exhibit <input type="checkbox"/> Non-Members <input type="checkbox"/> SGES Corporate Members	£700 £600		
Promotional Literature Service	£200		
Gala Dinner: I require additional ticket(s)	£30 each		
Accommodation: Use of student accommodation at Peterhouse College – £35.00 + VAT per night B&B Please tick for appropriate nights: 12 <input type="checkbox"/> 13 <input type="checkbox"/> 14 <input type="checkbox"/> 15 <input type="checkbox"/> December 1999	£35 per night		
<input type="checkbox"/> Car parking space requested			
	SUB-TOTAL	£	
	VAT @ 17.5%	£	
	TOTAL PAYABLE	£	

NOTES:

- Two Day Conference Fee includes: Two Day conference (14/15 December), two-volume proceedings, lunch and refreshments daily, invitation to Welcome Reception, one ticket to the Gala Dinner.
- Student Rates are available to bona fide research students, and DO NOT include proceedings or the Gala Dinner.
- Paid up members of SGES as at 31 October 1999 are entitled to register for ES99 at a reduced rate.
- Paid up members of other ECCAI societies as at 31 October 1999 may register for ES99 at the SGES members' rate. Evidence of membership should be sent with the registration form.
- Those paying the non-members' rate for attendance at the Two Day conference will be given a year's free membership of SGES ending on December 31, 2000 and will thus qualify for the members' rate for ES2000.

PLEASE COMPLETE BOTH SIDES OF THIS FORM