

Cyberworlds 2009



In co-operation with: IEEE, ACM, Eurographics

7-11 September 2009

Advance Programme

Cyberworlds

Cyberworlds are information worlds being formed on the Internet either intentionally or spontaneously, with or without design. As information worlds, they are either virtual or real, and may be both. In terms of information modelling, the theoretical ground for these Cyberworlds exceeds the level of integrating spatial database models and temporal database models. This conference therefore deals with large distributed information worlds on the Internet; the methods and tools used for creating such worlds; the applications of these worlds, and the social and cultural aspects.

The first event on Cyberworlds was held as an International Workshop on Synthetic Worlds in 1993 in Japan to explore the meaning, philosophy and the potential of the worlds synthesized on the web, as well as in computational spaces in general. Since then, the conferences have been organised on an annual basis and the proceedings are published by IEEE Computer Society with special issues published by The Visual Computer.

Venue

The venue for Cyberworlds 2009 is the University of Bradford, UK.

Web Site

The web site for Cyberworlds 2009 is here - <http://www.inf.brad.ac.uk/cw09/> and contains the most up to date information. If you have a question not covered by the web site please contact Rona Wilson, R.J.Wilson@bradford.ac.uk

Schedule

Pre-Conference Tutorials will be held on Monday 7 September and Tuesday 8 September. The Conference will be held Wednesday 9 September to Friday 11 September. In the Conference there are 6 Invited Speakers and refereed paper sessions. If you register for both of the Tutorials at the same time as you register for the Conference you obtain a 50% discount rate on the Tutorials – please see the Registration Form here – <http://www.inf.brad.ac.uk/cw09/?c=11>

Invited Speakers

[Professor William Dutton](#), University of Oxford, UK
[Professor Adrian Hilton](#), University of Surrey, UK
[Professor Nadia Magnenat-Thalmann](#), University of Geneva
[Professor Daniel Thalmann](#), Swiss Federal Institute of Technology
[Professor Dr Frank Van Reeth](#), University of Hasselt, Belgium

Banquet Speaker

Professor John Vince, Bournemouth University
<http://media.bournemouth.ac.uk/people/profiles/animation/johnvince.html>

Organising Committee

Honorary Co-chairs:

Professor Rae Earnshaw, School of Informatics, University of Bradford, UK
Professor Toshiyasu L. Kunii, University of Tokyo, Japan
Professor John Vince, University of Bournemouth, UK

Conference Co-chairs:

Dr Rami Qahwaji, School of Informatics, University of Bradford, UK
Dr Stan Ipson, School of Informatics, University of Bradford, UK

Programme Co-chairs:

Professor Hassan Ugail, School of Informatics, University of Bradford, UK
Professor Phil Willis, Department of Computer Science, University of Bath, UK

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Professor Hock Soon Seah, Nanyang Technological University, Singapore
Professor Alexei Sourin, Nanyang Technological University, Singapore

Conference secretary:

Rona Wilson, School of Informatics, University of Bradford, UK

Pre-Conference Tutorials, 7-8 September 2009

Monday 7 September 2009

“Geometric Algebra for Computer Graphics”

Prof. John Vince, Bournemouth University, UK

Full-day Tutorial

9.30 - 10.30 am	Registration
10.30 – 13.00	Sessions 1 and 2 (including Coffee/Tea Break)
13.00 – 14.00	Buffet Lunch (included in Registration Fee)
14.00 – 16.30	Sessions 3 and 4 (including Coffee/Tea Break)

Summary

This tutorial will cover the principles of geometric algebra in the context of 2D and 3D vector techniques employed in computer graphics. It will show how by adopting some simple axioms, a powerful algebra arises capable of computing intersections, reflections and rotations in 2D and 3D.

Geometric algebra develops the idea of vectors being oriented lines, and creates new objects for oriented planes and volumes. In so doing, the vector cross product becomes redundant and is replaced by a new outer product that works in space of any dimension. Also, as geometric algebra is naturally complex, in that some of its elements are imaginary, it performs all the operations of quaternions without requiring Hamilton's famous rules.

The tutorial begins by reviewing some elementary ideas of trigonometry and continues by introducing geometric algebra step-by-step. At each stage, examples will be given so that new ideas such as bivectors, trivectors, pseudoscalars, duals and rotors, are understood within a computer graphic context.

Since the first presentations on geometric algebra were given at SIGGRAPH, the presenter has investigated the algebra and has written two books on the subject. Delegates will receive a copy of the presenter's latest book: *Geometric Algebra: An Algebraic System for Computer Games and Animation*, published by Springer.

The objective of the tutorial is to provide a rapid overview of geometric algebra that will permit delegates to pursue the subject at a broader level. The tutorial will be of interest to students, researchers, academics and programmers.

Tuesday 8 September 2009

"Real-Time Individualized Virtual Humans"

Professor Nadia Magnenat Thalmann, University of Geneva

Professor Daniel Thalmann, Swiss Federal Institute of Technology, Lausanne

Full-day Tutorial

9.30 - 10.30 am	Registration
10.30 – 13.00	Sessions 1 and 2 (including Coffee/Tea Break)
13.00 – 14.00	Buffet Lunch (included in Registration Fee)
14.00 – 16.30	Sessions 3 and 4 (including Coffee/Tea Break)

Summary

This tutorial will present the latest techniques to model fast individualized animatable virtual humans for Real-Time applications. As a human is composed of a head and a body, we will analyze how these two parts can be modeled and globally animated as in real-life. More precisely, we will show how we can automatically generate individualized RT bodies from scanned data or from interactive measurements, create automatic skeleton for any body size, animate them automatically, control the motion in RT and retarget the motion according to a motion sequences database. Facial animation will be also addressed from motion facial capture and voice to the simulation of interactive realistic talking virtual humans, including personality models and complete body gestures. We will describe how we can model crowds in real-time using dynamic meshes, static meshes and impostors. Techniques to introduce variety in crowds including individual animation, individualized path-planning, accessories will be explained.

Several case-studies will be shown in cultural heritage, Emergency situations, and models for fashion industry. Examples of interaction with virtual humans will be presented. An analysis of remained open research topics will be presented.

The course objective is to offer any student, researcher or real-time application developer the state of the art in modeling and animating individualized virtual humans. The presentation will be theoretical and applications based with case studies. Several animations will be shown.

Conference Sessions – Technical Programme

Wednesday 9 September 2009

Morning Session

8.00 – 9.00 am Registration

9 am Conference Starts

9.00 – 9.15 am Introduction and Welcome

Augmented Reality and Virtual Reality

Invited Speaker

Prof Daniel Thalmann (Swiss Federal Institute of Technology)

“Challenges in Crowd Simulation”

Hongchao Fang, Soh Khim Ong and Andrew Yeh-Ching Nee.
“Robot Programming using Augmented Reality”

Zhenbiao Wang, Yan Shen, Soh Khim Ong and Andrew Yeh-Ching Nee.
“Assembly Design and Evaluation based on Bare-Hand Interaction in an Augmented Reality Environment”

Gan Lu, Lik-kwan Shark, Geoff Hall and Ulrike Zeshan.
“Dynamic Hand Gesture Tracking and Recognition for Real-time Immersive Virtual Object Manipulation”

Lei Wei, Alexei Sourin and Herbert Stocker.
“Collaboration in 3D Shared Spaces using X3D and VRML”

Gerd Bruder, Frank Steinicke, Kai Rothaus and Klaus Hinrichs.
“Enhancing Presence in Head-mounted Display Environments by Visual Body Feedback using Head-mounted Cameras”

Sha Ma, Martin Varley, James Richards and Lik-Kwan Shark.
“Overcoming the information overload problem in a multiform feedback based virtual reality system for hand motion rehabilitation”

Elif Ayiter, Selim Balcisoy, Murat Germen, Bulut Sakcak and Fethi Ozdol.
“The Reflexive Campus: A Study of Dynamic Architecture in a Virtual World”

David Panzoli, Hervé Luga and Yves Duthen.
“Beyond Reactive Systems: an Associative Memory for Sensory-Driven Intelligent Behavior”

Afternoon Session

Modelling and Rendering

Invited Speaker

Prof Nadia Magnenat Thalmann (University of Geneva)
“Virtual Humans in Serious Games”

Parallel Session 1

Kenji Ohmori (Hosei University, Japan) and Toshiyasu Kunii.
“Mathematical Foundation for Designing and Modeling Cyberworlds”

Muzhou Xiong, Michael Lees, Wentong Cai, Suiping Zhou and Malcolm Yoke Hean Low.
“A Rule-Based Motion Planning for Crowd Simulation”

Xiaoyin Guan, Lik-kwan Shark, Geoff Hall and Wei Deng.
“Distortion Correction for Immersive Navigation in Spherical Image Environment”

Gabriela Gonzalez, Hassan Ugail and Michael Athanasopoulos.
“Cyclic animation of a human body using PDE surfaces”

Mingmin Zhang, Qingfeng Mi, Zhigeng Pan.
“Anisotropic Cloth Modeling Based on Material Fabric”

Alexander Emelyanov, Yuri Astakhov and Stanislav Klimenko
“General Concept of Repairing CAD Models”

Parallel Session 2

Xia Han, Hassan Ugail and Ian Palmer.
“Gender Classification Based on 3D Face Geometry Features using SVM”

Eyad Elyan, Hassan Ugail.
“Interactive Surface Design and Manipulation using PDE-Method through Autodesk Maya Plug-in”

Simant Simant Prakoornwit, Ralph Benjamin.
“Optimal 3D surface reconstruction from multiview photographic images”

B. Bulca, K. Arslan, B. Bayram, G. Ozturk and H. Ugail
“On Spherical Product Surfaces in E3”

H. Ugail, G. Gonzalez Castro, A. Sourin and O. Sourina
“Towards a Definition of Virtual Objects using Partial Differential Equations”

Animation

Masaki Oshita (Kyushu Institute of Technology, Japan).
“Animation from Natural Language Texts and Framework of Motion Database”

Evening

6.30 pm

Conference Reception, Atrium, University of Bradford

Speech from the Lord Mayor, City of Bradford

Thursday 10 September 2009

Morning Session

8.00 – 9.00 am Registration

9 am Conference Starts

Internet Applications

Invited Speaker

Prof Dr Frank Van Reeth (University of Hasselt, Belgium)

"Virtual Interactive Communities: Capita Selecta in Multi-disciplinary, Demand-driven Research"

Ji Seung-Hyun, Ryu Dong-Sung, Chung Woo-Keun and Cho Hwan-Gue.

"A Dialogue Management for Virtual Avatar Agents by Using 3D Spatial Information on WONDERLAND Platform"

Shahriar Akter, Pradeep Ray, Mahfuzur Rahman and Amir Talaei-khoei.

"Service Quality of mHealth Services in Developing Countries"

Rita Ochuko.

"Overview of Factors for Internet Banking Adoption"

Asako Soga, Bin Umino and Motoko Hirayama.

"Automatic Composition for Contemporary Dance using 3D Motion Clips: Experiment on Dance Training and System Evaluation"

Wei Zhang, Muhammad Zeeshan Patoli, Michael Gkion, Abdullah Albarakati, Paul Newbury and Martin White.

"Reanimating Cultural Heritage through Service Orientation, Workflows, Social Networking and Mashups"

Kingkarn Sookhanaphibarn and Ruck Thawonmas.

"A Content Management System for User-Driven Museums in Second life"

Dimitris Rigas and Mahmood Alharbe.

"Initial Experiment to Improve the Interface to Input-Output of the Comments in E-newspaper"

F.AI-Abri, X.Li, E.A.Edirisinghe, C.Grecos.

"A Novel Framework for Multi-Objective Optimization of Video CODECs"

Fahad AL-Harby, Rami Qahwaji and Mumtaz Kamala.

"The effects of gender differences in the acceptance of biometrics authentication systems within online transaction"

Afternoon Session

Invited Speaker

Prof Adrian Hilton (University of Surrey, UK)

"Video-based 3D Content Production"

Parallel Session 1

AI and Robotics

Marco Della Vedova, Tullio Facchinetti, Antonella Ferrara and Alessandro Martinelli

"Visual interaction for real-time navigation of autonomous mobile robots"

Jawad AlKhateeb.

"A machine learning approach for off-line handwritten Arabic words"

Image Analysis

Omar Ahmed, Rami Qahwaji, Tufan Colak, Thierry Dudok de Wit and Stan Ipson.

"Calculate the Energy of Active Regions and Solar Disk on Satellite Images"

Moi Hoon Yap, Hassan Ugail, Reyer Zwiggelaar, Bashar Rajoub, Victoria Doherty, Stephanie Appleyard and Gemma Huddy.

"A Short Review of Methods for Face Detection and Multifractal Analysis"

Aamer Mohamed F. Khellfi ,Ying Weng, and, Jianmin Jiang.

"An efficient Image Retrieval through DCT Histogram"

Mohannad Athar Ali, Eran A. Edirisinghe

"Watermarking H.264/AVC by Modifying DC Coefficients"

Eyad Elyan, Hassan Ugail.

"Automatic 3D Face Recognition Using Fourier Descriptors"

Mohammad Alomari, Rami Qahwaji, Tufan Colak, Stan Ipson and Christopher Balch.

"Next-Day Prediction of Sunspots Area and McIntosh Classifications using Hidden Markov Models"

Viruses and security

Madiah Mohd Saudi, Andrea J Cullen and Mike E Woodward.

"STAKCERT Framework in Eradicating Worms Attack"

Maher Aburrous, M. A. Hossain, Keshav Dahal and Fadi Thabatah.

"Modeling Intelligent Phishing Detection System for e-Banking using Fuzzy Data Mining"

Hanan Sandouka, Andrea Cullen and Ian Mann.

“Social Engineering Detection using Neural Networks”

Parallel Session 2

HCI

Dave Robison, Ian Palmer, Peter Excell, Rae Earnshaw and Omar Alseikhsalem.
“Multi-Platform Human Computer Interaction in Converged Media Spaces”

Alena Petrasova, Julie Farrer, Silvester Czanner, Alan Chalmers and Dieter Wolke.
“User Interface for Assisting babies with feeding disorders”

Abdullah Bulbul, Zeynep Cipiloglu and Tolga Capin.
“A Face Tracking Algorithm for User Interaction in Mobile Devices”

Khalid Al-omar and D Rigas.
“Comparison of Adaptive, Adaptable and Mixed-initiative Menus”

O. Sourina, N. Korolev
“Visual Query Interface for Molecular Dynamics”

Virtual Learning

Rae Earnshaw, David Robison and Peter McClory.
“Interactive and Augmented Information Spaces to Support Learning and Dynamic Decision-Making”

Faranak Fotouhi-Ghazvini, Rae Earnshaw, David Robison, and Peter Excell.
“An Instructional-Motivational Paradigm to Design Augmented Reality Games for Mobile Learning”

Martha Burkle and Kinshuk Kinshuk.
“Learning in virtual worlds: The challenges and opportunities”

Mohamed Sallam and Dimitrios Rigas.
“The Use of Multimodal Metaphors on E-learning Note-Taking”

Polina Danilicheva, Stanislav Klimenko, Yury Baturin and Alexander Serebrov
“Education in Virtual Worlds: Virtual Storytelling”

Faranak Fotouhi-Ghazvini, Rae Earnshaw and L Haji-Esmaili.
“Mobile Assisted Language Learning in a Developing Country Context”

Evening

Banquet Speech and Conference Dinner National Media Museum

Banquet Speaker: Prof John Vince, Bournemouth University

Friday 11 September 2009

Morning Session

8.00 – 9.00 am Registration

9 am Conference Starts

Social and Ethical Aspects

Invited Speaker

Prof William Dutton (University of Oxford, UK)

“Experience 2.0: Trust in the Internet”

Ajeet Singh Poonia, Awadesh Bhardwaj and G. S Dangayach.
“Ethical values and practices for Cyber Society”

Radwan Al Dwairi and Mumtaz Kamala.
“Determination of the Factors that Influence Consumers’ Trust in Business-to-Consumers Electronic Commerce: An Empirical Approach”

Radwan Aldwairi and Mumtaz Kamala.
“An Integrated Trust Model for Business-to-Consumer (B2C) E-Commerce: Integrating Trust with the Technology Acceptance Model”

Caterina Desiato.
“The Conditions of Permeability: How Shared Cyberworlds Turn into Laboratories of Possible Worlds”

Toshitaka Amaoka, Hamid Laga and Masayuki Nakajima.
“Modeling the Personal Space of Virtual Agents for Behavior Simulation”

Patrick Allen.
“Place and Locality in Augmented Public Space: a case study in the site specific nature of urban screens”

Gianluca Mura.
“Cyberworld Cybernetic Art Model for Shared Communications”

Conference concludes at 1 pm

Optional Tours in the Afternoon

Invited Speakers

[Prof. William Dutton](#), University of Oxford, UK

Biography

Professor William H. Dutton is Director of the Oxford Internet Institute, Professor of Internet Studies, University of Oxford, and Fellow of Balliol College. Before coming to Oxford in 2002, he was a Professor in the Annenberg School for Communication at the University of Southern California. In the UK, he was a Fulbright Scholar 1986-87, and was National Director of the UK's Programme on Information and Communication Technologies (PICT) from 1993 to 1996.

In addition to directing the OII, Professor Dutton is Director and Principal Investigator of the [Oxford e-Social Science Project](#) (OeSS), a node within the UK's National Centre for e-Social Science, and Principal Investigator of the [Oxford Internet Surveys](#) (OxIS), a key resource on the use and impact of the Internet in Britain, that is linked to the World Internet Project, comprising over 20 nations.

His recent publications on the social aspects of information and communication technologies include *Society on the Line* (Oxford University Press, 1999), and *Transforming Enterprise*, co-edited (MIT Press, 2005).

Links

[Bill's OII blog](#)

[Curriculum Vitae \(Microsoft Word, 200kb\)](#)

[Prof. Adrian Hilton](#), University of Surrey, UK

“Video-based 3D Content Production”

Over the past decade video-based reconstruction and rendering techniques have received increasing interest for realistic content production in games, broadcast and film. Image-based approaches to shape capture and rendering using texture maps are now standard in commercial platforms. This talk will focus on advances in realistic content production for dynamic scenes from multiple view video and the challenges to exploiting captured 3D video in production. Advances in multiple camera studio capture and reconstruction have resulted in methods for highly realistic rendering of actor performance. Challenges in integrating captured representations into a conventional games or film production pipeline will be reviewed, together with new approaches using surface motion graphs for video-based animation from captured 3D video sequences. Recent research will be presented transferring multiple view reconstruction to outdoor scenes to enable free-viewpoint video in sports broadcast production and on-set production in film will be presented. The talk will review the state-of-the-art and identify open research problems which need to be resolved to realise the wide-spread application of 3D video in production.

Biography

Adrian Hilton is Professor of Computer Vision and Graphics at the University of Surrey, UK. His research interest is robust computer vision for modelling and understanding real world scenes to bridge-the-gap between real and computer generated imagery. Over the past decade he has published over one hundred articles in the fields of computer vision, graphics and animation. Scientific contributions have been recognised by two journal and one conference best paper awards. Research has been commercially exploited leading to the first commercial hand-held 3D scanner and the first system for capturing animated models of people have been recognised through two EU IST Awards for Innovation, a DTI

Manufacturing Industry Achievement Award and a Computer Graphics World Innovation Award. He heads the Visual Media Research Group leading collaborations with the broadcast and film industries to exploit computer vision technologies for use in production. He received an Advanced Research Fellowship in 1997 and a Royal Society Industry Fellowship in 2008 to support collaboration with industry. He currently serves as an area editor for the journal Computer Vision and Image Understanding, is a member of EPSRC ICT Strategic Advisory Team and was a co-founder of the annual industry-academic Conference on Visual Media Production in 2003. He is a Chartered Engineer and member of IET, IEEE and ACM.

Prof. Nadia Magnenat-Thalmann, University of Geneva

Professor Nadia Magnenat-Thalmann is currently Professor at the University of Geneva in Switzerland and Director of the research lab MIRALab.

Abstract

Computers and video games are more and more used for serious purposes such as education and health care. Virtual humans are the inhabitants of the simulated worlds in these games and the challenge is not only to make them look like humans but also to make them behave as humans. Thus, they should be equipped with properties such as social and cognitive intelligence, personality, emotions and user awareness in order to engage the users to the game and to be sensitive to the users' state. We will present an overview of serious games applications and discuss our research on social virtual characters including social robots, research led in the framework of the European Projects INDIGO and Playmancer in which we are partners.

Biography

After having obtained several diplomas in various disciplines (Psychology, Biology, Chemistry, Computer Science and a PhD in Quantum Physics, all from University of Geneva), she moved to Canada in 1977 where she became subsequently assistant, associate and full Professor at the University of Montreal. During these years, she pioneered the field of Virtual Humans and received 7 artistic awards for her participation to the film *"Dreamflight"*. This film won an award at the conference On-Line in London, in front of Disney's film *"Tron"* in 1982. She further developed a strong agenda of interdisciplinary research that was considered by the scientific community as a very early innovation. In 1987, she was nominated Woman of the Year by the greater Montreal Association for her exceptional achievement in Sciences and Art. In 1988, she received a one year grant from the Council of Arts of Canada for her co-direction of the film *"Rendez-vous in Montreal"* that allows her to show her work on Virtual Marilyn at the Modern Art Museum in New York along with young Canadian promising artists.

Back in Switzerland in 1988, she has initiated and developed several programs of intensive research that have been awarded by the European Commission and the Swiss National Foundation. She has obtained more than 45 European projects that makes her group the most EU funded lab in Switzerland. During the nineties and 2000, she has received continuously scientific and artistic awards. Among the most cited awards are the Golden Camera Award at the Golden Camera Ceremony in Berlin (shown at TV with 16 millions televiewers), a ZDF program dedicated to *"die virtuelle Marilyn, die Welt von Nadia Thalmann"*, more recently her selection in the electronic Wall of Fame in the Heinz Nixdorf Museum in Germany and the best paper of the International Journal of Virtual Reality for the year 2007 (award obtained by vote of the readers).

Professor Nadia Magnenat-Thalmann has contributed, along with her students, to the publication of more than 480 scientific papers, written more than 40 books and produced more than 25 virtual reality interactive shows. Professor Nadia Magnenat-Thalmann is

Editor-in-chief of several scientific journals, among them, the Visual Computer published by Springer and the Computer Animation Virtual Worlds Journal published by Wiley. She is also associate Editor of several others, as for example, the IEEE Transactions Journal on Multimedia. She has been invited to present and discuss the impact of her work at the World Economic Forum in Davos from 1999 to 2001.

[Prof. Daniel Thalmann](#), Swiss Federal Institute of Technology, Lausanne

Biography

Daniel Thalmann is Professor and Director of The Virtual Reality Lab (VRlab) at EPFL, Switzerland. He is a pioneer in research on virtual humans. His current research interests include real-time virtual humans in Virtual Reality, crowd simulation, and multimedia virtual environments. He is coeditor-in-chief of the Journal of Computer Animation and Virtual Worlds and member of the editorial board of the Visual Computer and four other journals. Daniel Thalmann was member of numerous program committees, co-chair, and program co-chair of several conferences including IEEE VR, ACM VRST, CGI, SCA, CASA, and CyberWorlds. He has also organized five courses at SIGGRAPH on human animation and crowd simulation. Daniel Thalmann has published numerous papers in graphics, animation, and virtual reality. He is coeditor of 30 books and coauthor of several books including "Crowd Simulation" (2007). He is also the President of the Swiss Association of Research in Information Technology and a Director of the European Research Consortium in Informatics and Mathematics (ERCIM). He received his Ph.D. in Computer Science in 1977 from the University of Geneva and an Honorary Doctorate (Honoris Causa) from University Paul-Sabatier in Toulouse, France, in 2003.

[Prof Dr Frank Van Reeth](#), University of Hasselt, Belgium

Biography

Frank Van Reeth is Professor of computer science at Hasselt University in Diepenbeek, Belgium since 1993. He is deputy managing director of the Expertise centre for Digital Media (EDM), a research institute of about 80 people at Hasselt University. He obtained a MS in computer science in 1987 at the Free University of Brussels and a PhD in computer science at Limburgs University Centre (now Hasselt University) in 1993.

His research interests include computer graphics, computer animation, networked virtual environments, human computer interaction and multimedia technology. He has published over 120 scientific papers in the above domains. He is a frequent member of the Program Committee of international conferences such as "IEEE Virtual Reality", "Computer Graphics International" and "Computer Animation".

Frank Van Reeth has been active in the R&D as well as project management in more than 10 European research projects and has been involved in numerous bilateral industrial research projects. He has served on many review committees (e.g. European Commission, IWT (Flanders), EPSRC) evaluating research proposals in the above domains. Frank Van Reeth is cofounder of 5 spin-off companies.

Prof John Vince, Bournemouth University

Biography

Prof John Vince, Bournemouth University

In 2006 John Vince retired as Head of the Computer Animation Academic Group within the National Centre for Computer Animation which supports the following academic

programmes: BA (Hons) Computer Visualisation & Animation, MA 3D Computer Animation, MA Digital Effects, MSc Computer Animation, and Masters by Project. He has strong links with the computer animation and computer games sectors and now works for BU Media Consulting.

Prior to joining Bournemouth University, he was Chief Scientist at Thomson Training & Simulation where his research work involved him in real-time computer graphics systems for military and commercial flight simulators. In 1994 he co-founded the Virtual Reality Society and is one of the Founding Editors of the Virtual Reality Journal.

John Vince has edited and authored 34 books on many aspects of computer graphics and has recently completed his second book on geometric algebra: "*Geometric Algebra: An Algebraic System for Computer Games and Animation*". He is currently producing a third edition of his popular book Mathematics for Computer Graphics.

He was recently awarded a DSc by Brunel University in recognition of his work in computer graphics.

Program Committee

Angelos Amditis, National Technical University of Athens, Greece
Majid Al-Taei The University of Jordan
Peter Astheimer, ITI Techmedia
Norman Badler, University of Pennsylvania, USA
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Xuelong Li, University of London, U.K.
Jianhua Ma, Hosei University, Japan
Nadia Magnenat-Thalmann, University of Geneva, Switzerland
Rami Qahwaji, University of Bradford, UK
Gianluca Mura, Politecnico di Milano University, Italy
Luciana Nedel, Federal University of Rio Grande do Sul, Brazil

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Switzerland
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Franz-Erich Wolter, Leibniz Universitat Hannover, Germany
Phil Willis, University of Bath, UK
Michael Wilson, University of Leeds, UK
Baowen Xu, Southeast University, China
Moi Hoon Yap, University of Bradford, UK
Jiri Zara, Czech Technical University, Czech Rep
Tianhao Zhang, Shanghai Jiao Tong University



2 June 2009