

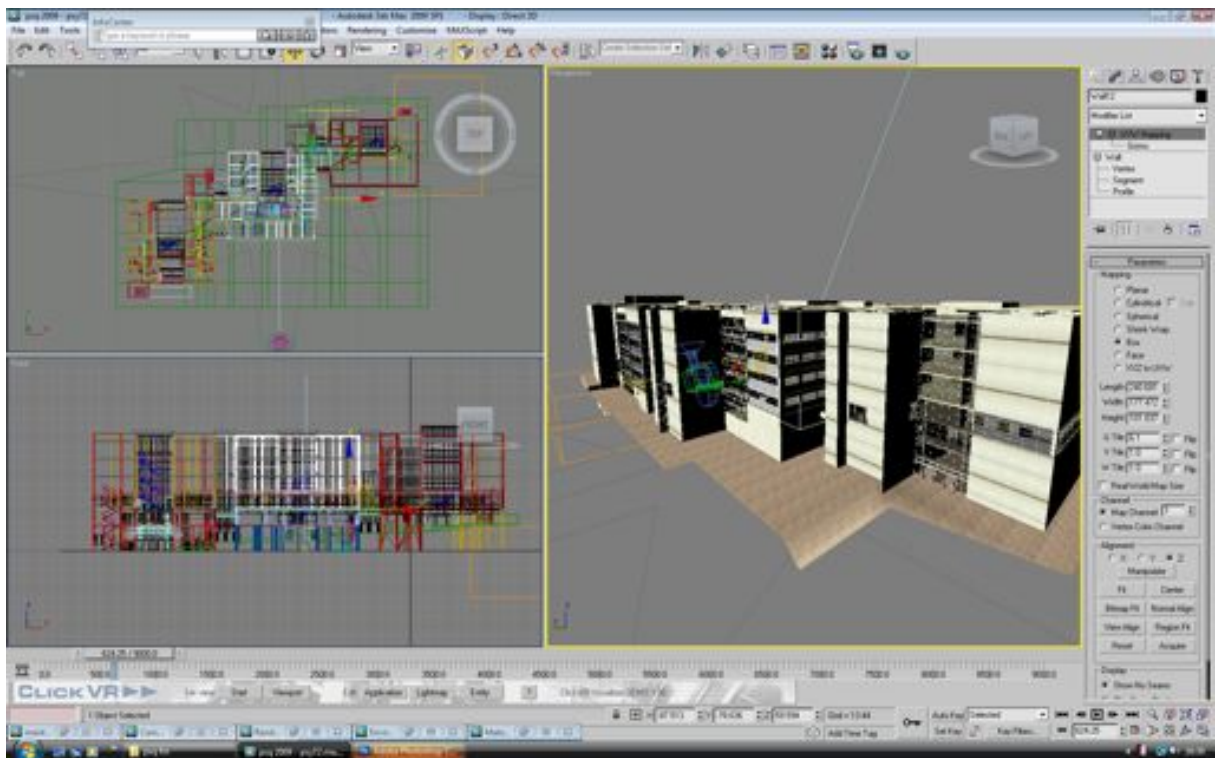
Appendix:

A: Project Portfolio.

PSQ Building Campus Carbon Footprint:

A development of the Arch-OS project in collaboration with the CSF CETL. This project attempts to create a real-time 3d visualisation of the carbon footprint of the Portland Square building through data feeds generated by the Arch-OS system. This has generated a flexible 3D model of the campus and PSQ building, as well as a number of visualisations used to support another RiT Project (Development of a joint Centre for Creative Design and Technology).

B Aga, Shaun Murray, Mike Phillips, Chris Speed.





Spatial Memory:

The incorporation of the PSQ 3D model to support behavioural experiments derived from experimental psychology, involving tightly controlled manipulations of the immersive experience, random assignment to experimental conditions and appropriate statistical analyses. The 3D model of Portland Square has been incorporated in a number of spatial memory and immersive environments experiments.

School of Psychology, Staff: Simone Schnall, Craig Hedge.





Coastal Engineering:

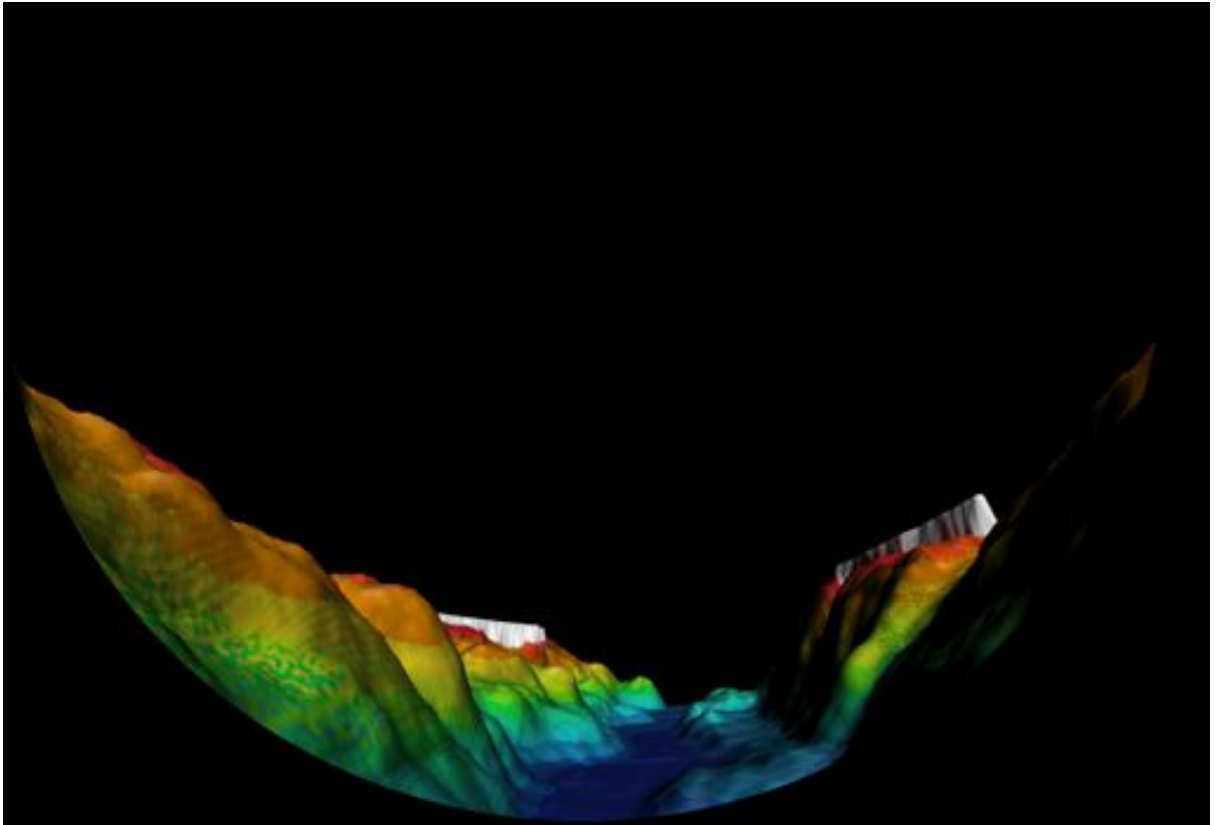
The development of 3D dome visualisation from research and undergraduate work. This has included face to face tutorial support to develop undergraduate student 3D modelling and visualisation skills, and to facilitate the development of a real-time 3d environment.

Staff: Paul Robinson, Neil Hughes, Bob Stone

Department: School of Computing, Communications & Electronics/ School of Engineering

Module details: DSGN143



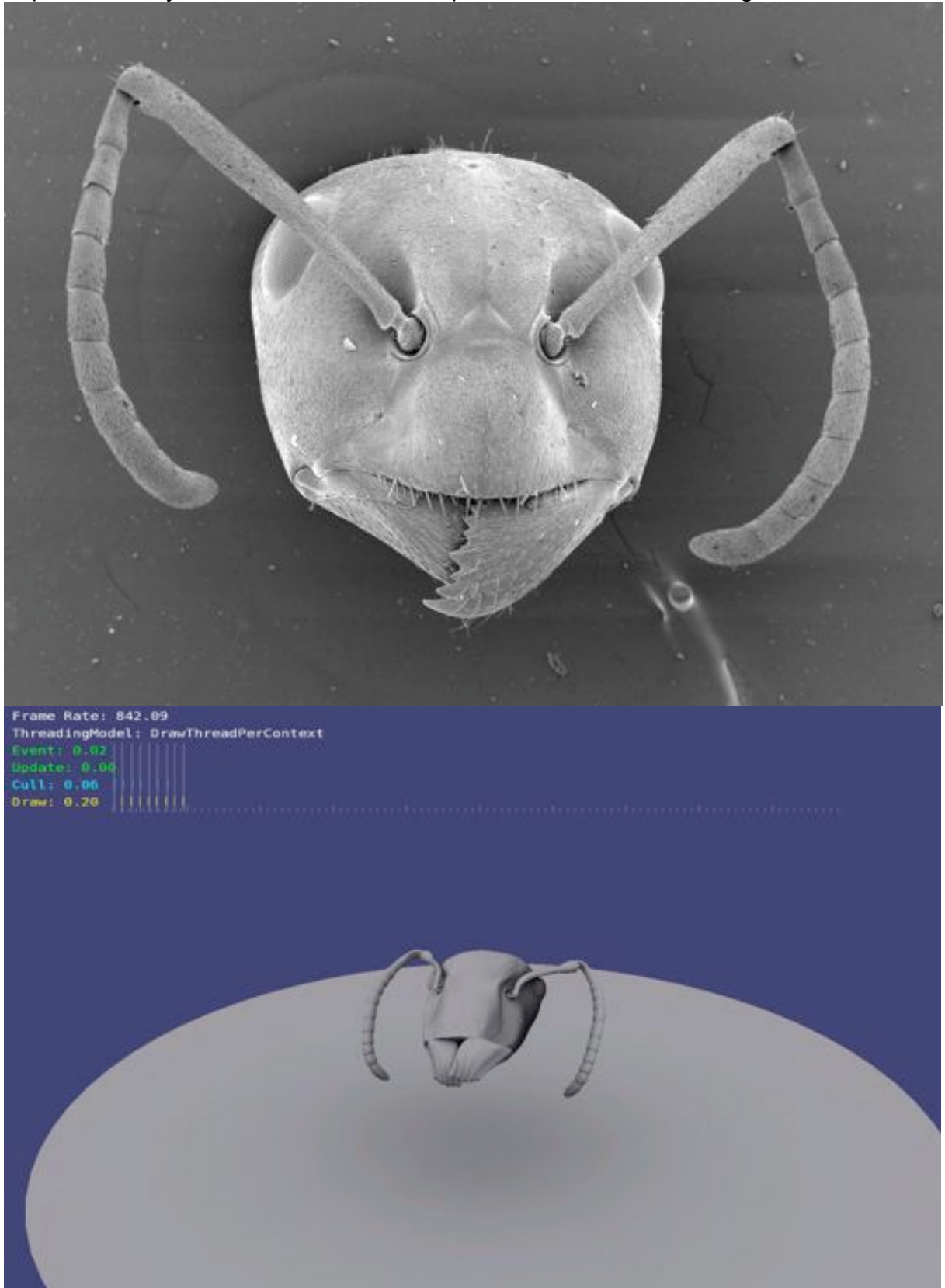


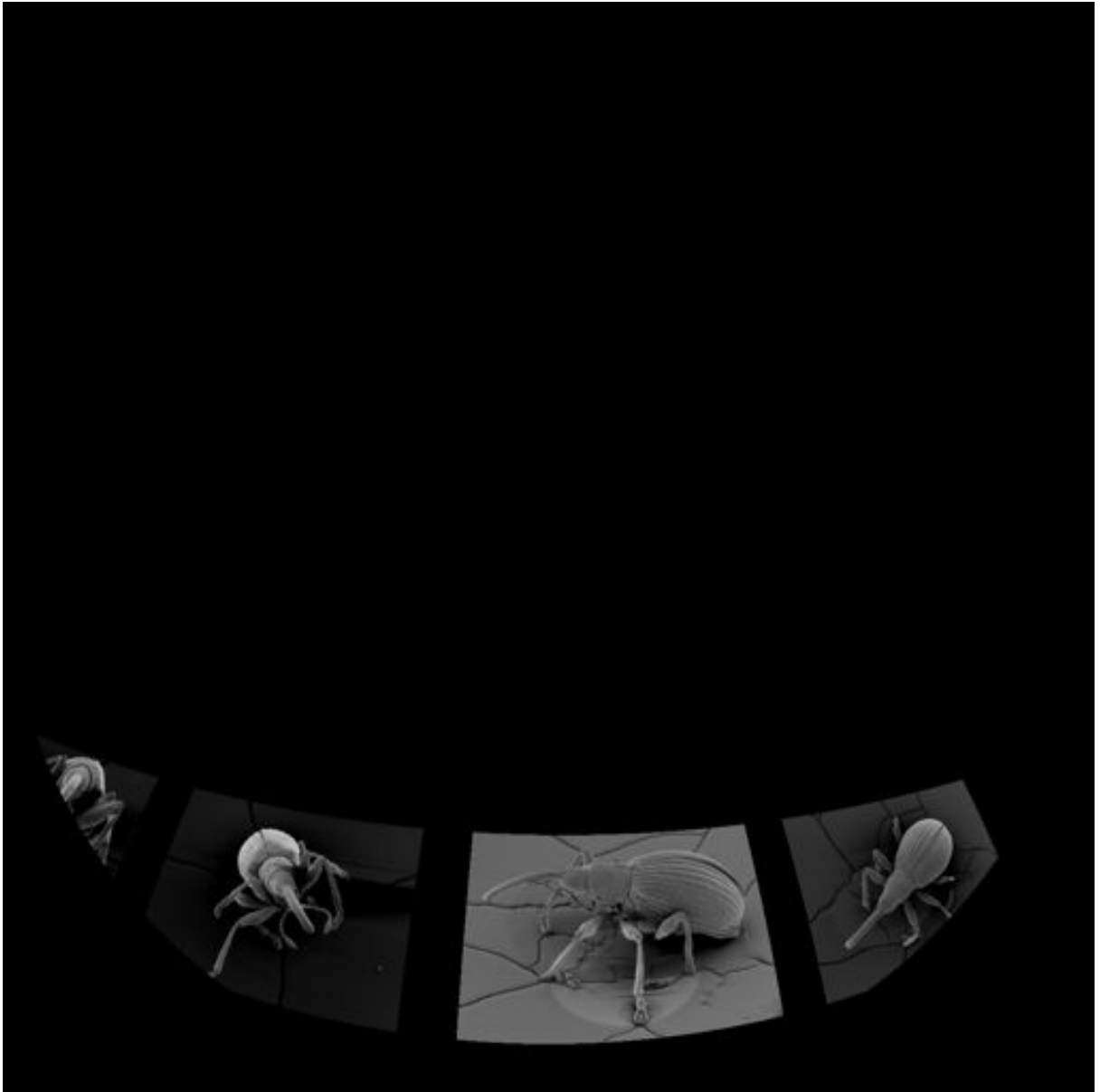
Insect Anatomy:

The support of a cross disciplinary project modelling high resolution scanning electron microscopy images for use in the IVT. Projected in full panorama within the IVT, the image sets will allow detailed investigation of fine structure in specimens of selected invertebrate groups.

Staff: Roy Moate, Peter bond and Peter Smithers

Department: Plymouth Electron Microscope Centre, School of Biological Sciences



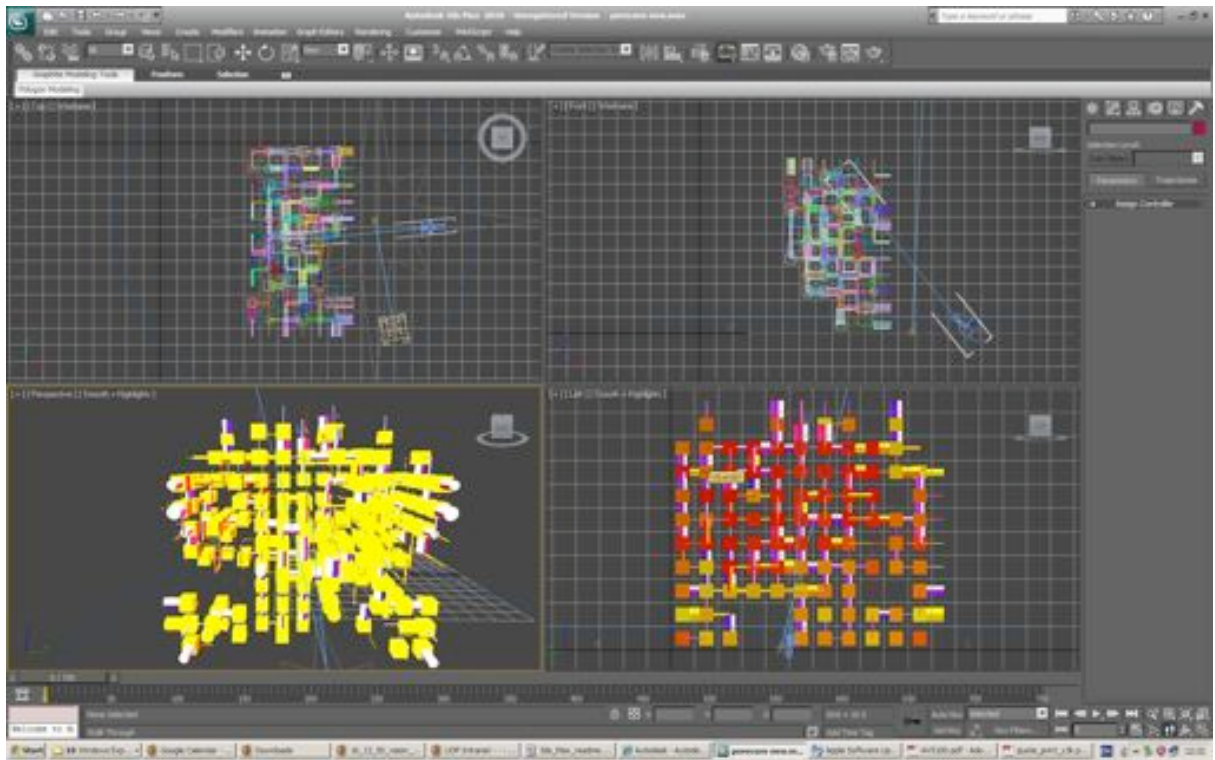


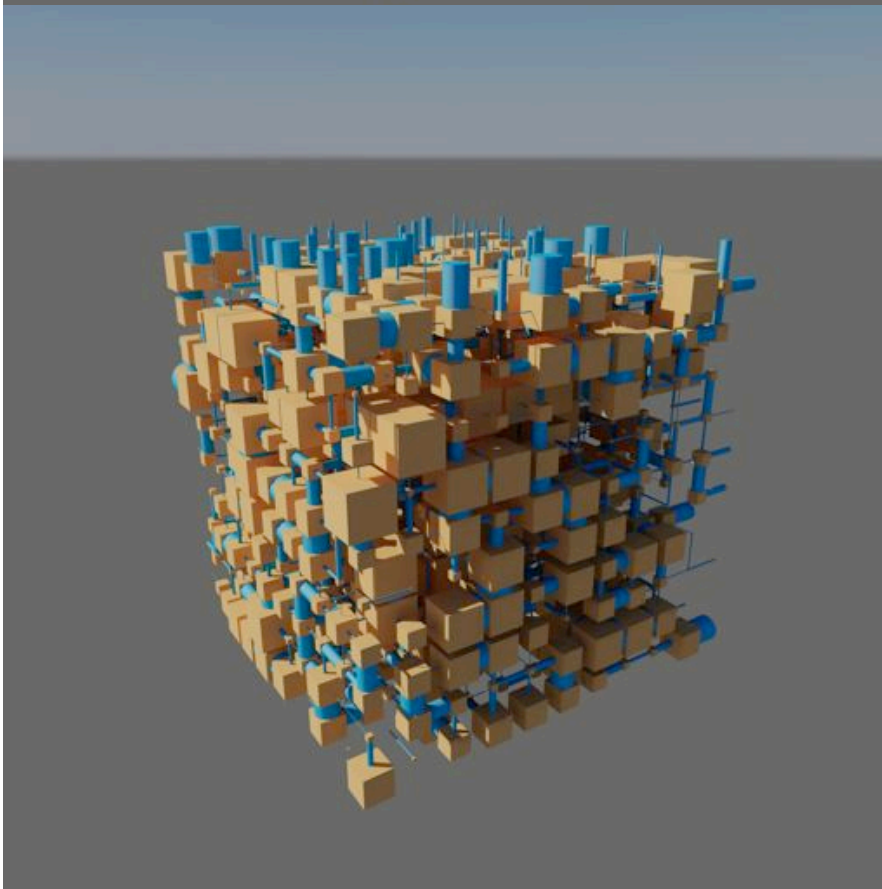
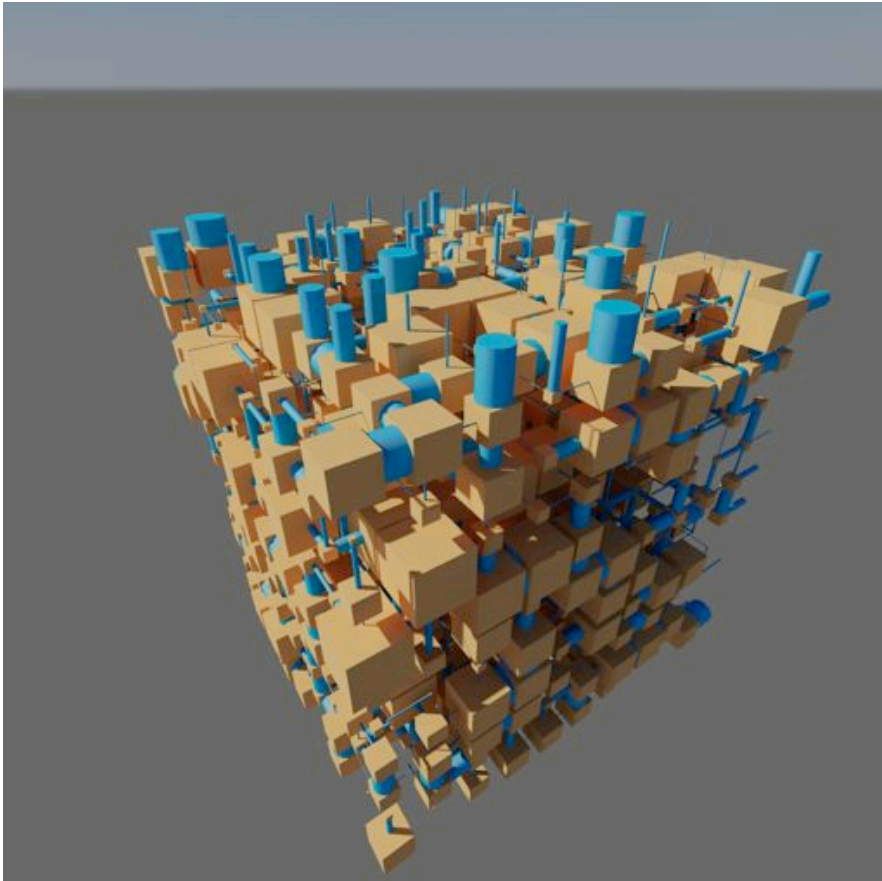
Pore-Core:

Video Production for activities in Applied Chemistry used on open days. Incorporates a kix of 3D modelling and animation and dome corrected video footage.

Staff: Peter Matthews.

Department: School of Earth, Ocean & Environmental Sciences

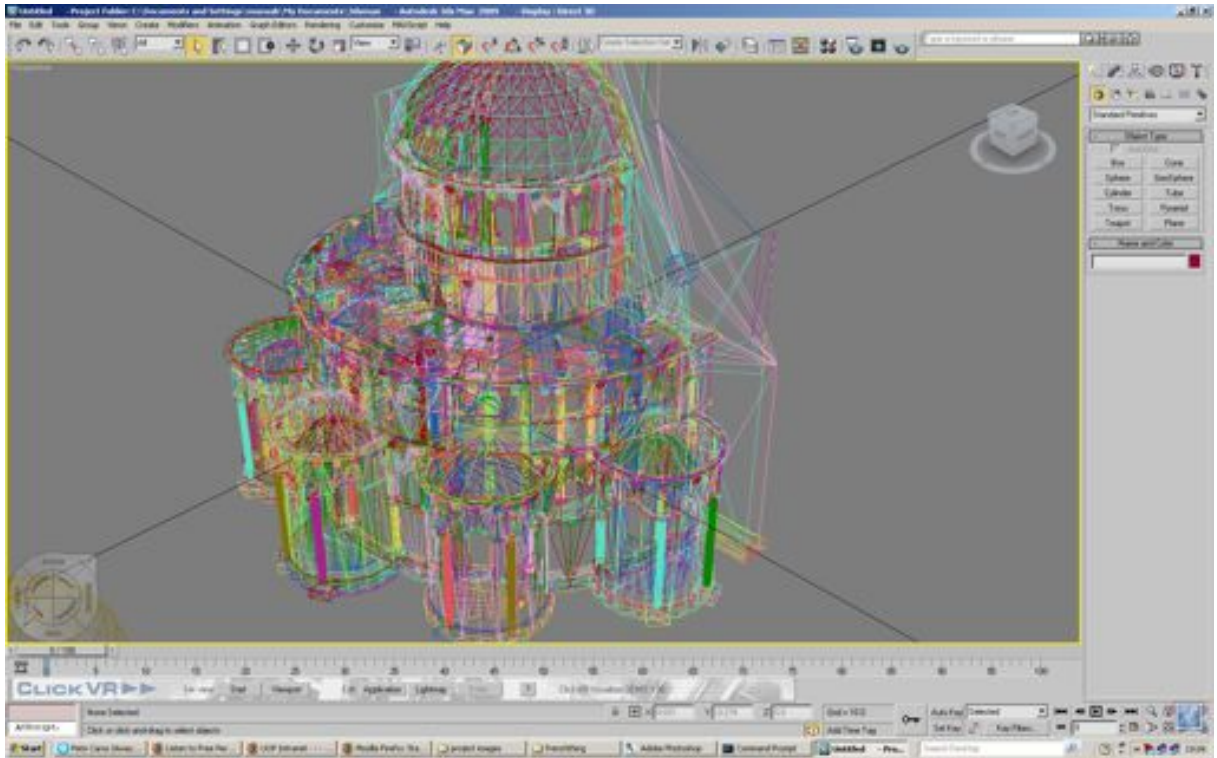


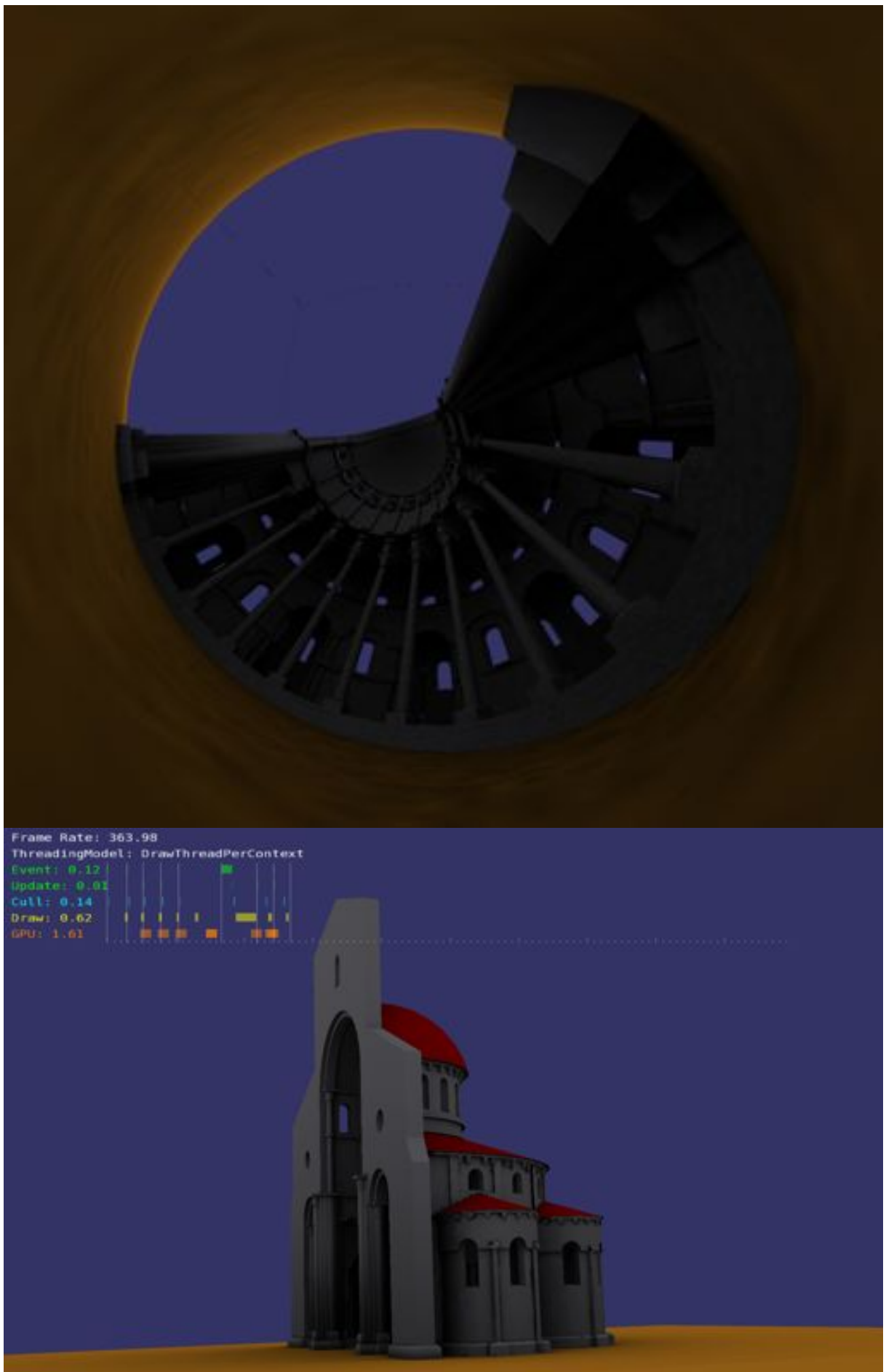


Cluny Abbey:

Building on existing models of Cluny Abbey virtually reconstructed for a CAVE and stereoscopic flat screen environment by Laboratoire Électronique, Informatique et Image - Équipe Immersion Virtuelle, Arts & Métiers ParisTech / Institut Chalon sur Saône. This project implemented a real time Open Scenegraph solution which has been incorporated into several other projects, such as the Insect Anatomy project above.

Pete Carss, Neil James, Mike Phillips.



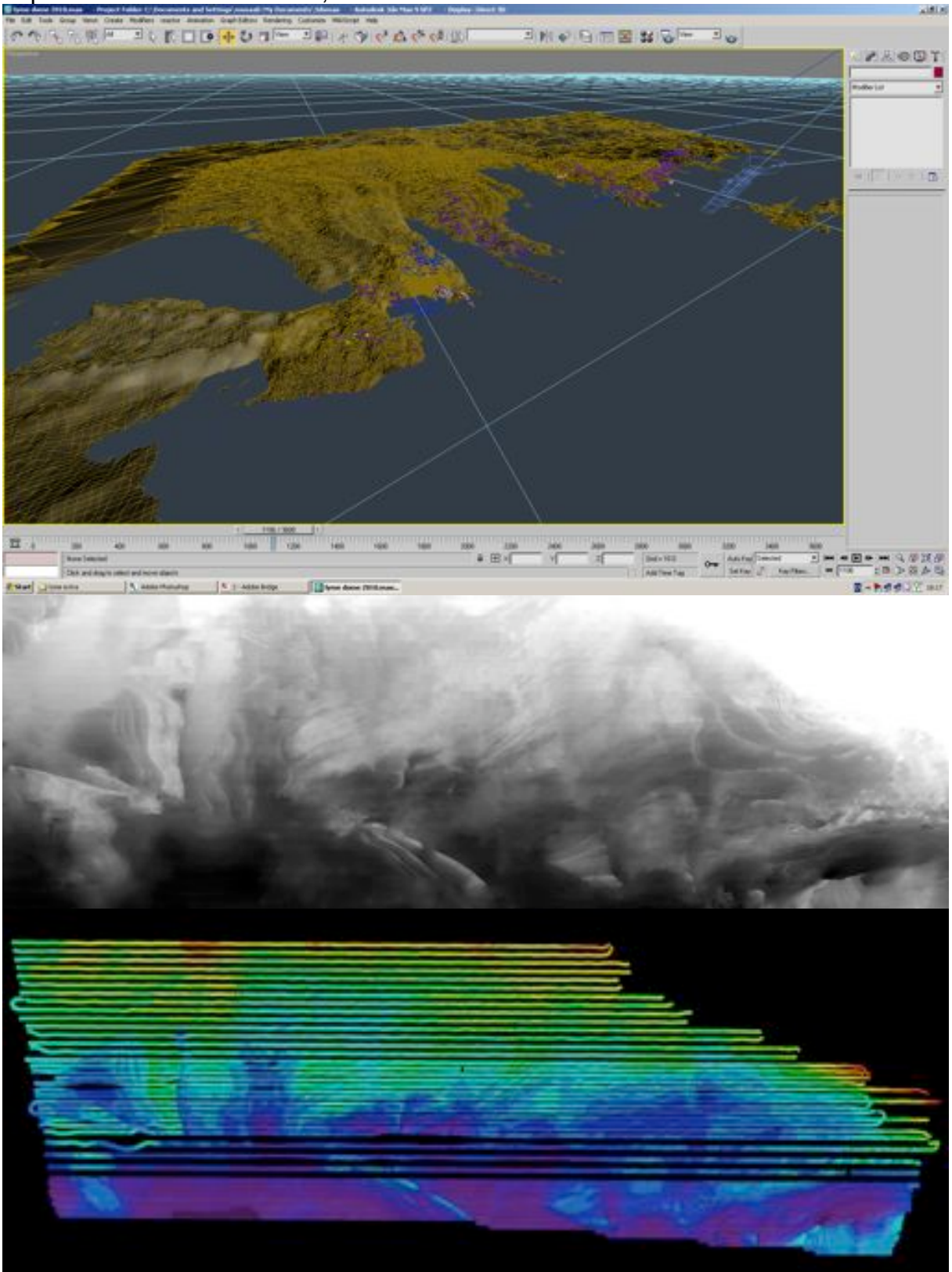


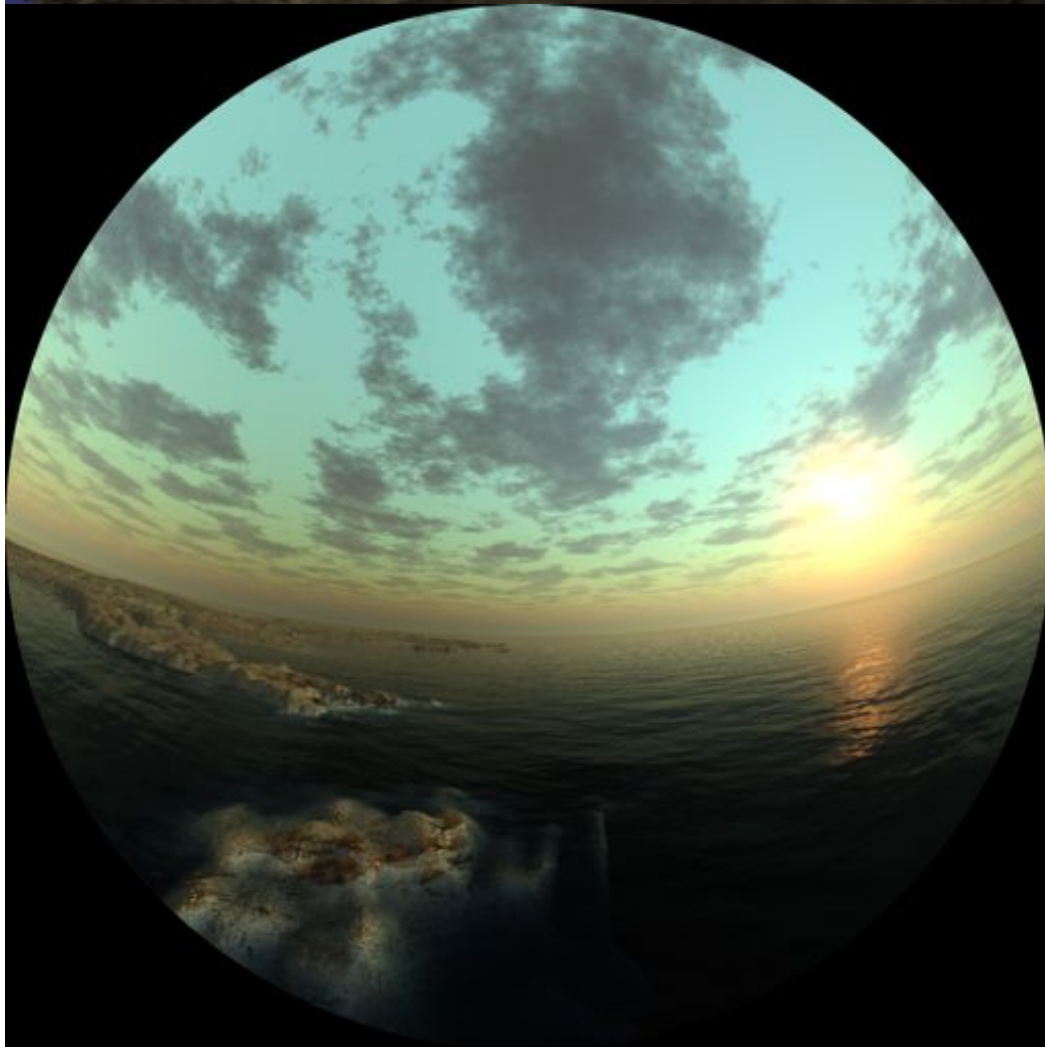
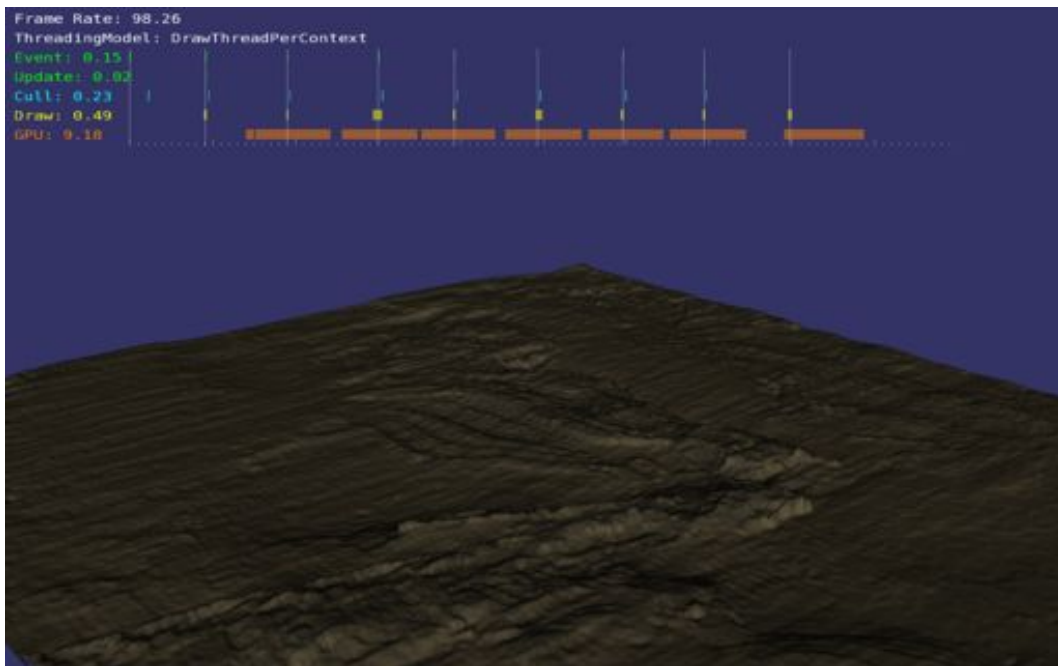
Lyme Bay

modifying an existing 3d animation created for Devon marine wildlife trust, into a dome animation / real-time production.

Staff: Sian Rees

Department: School of Earth, Ocean & Environmental Sciences





B: Original Research Assistant Job Spec.

FACULTY OF TECHNOLOGY

CENTRE FOR CREATIVE DESIGN & TECHNOLOGY

Ref: AXXXX

RESEARCH ASSISTANT IN IMMERSIVE DOME CONTENT DESIGN

Salary £20,437 to £23,692 pa – Grade 5

Plymouth

This is a new position for a Research Assistant to work with the existing team of content producers for the Full Dome Immersive Vision Theatre on the Plymouth Campus. The post will develop dynamic content drawn from diverse disciplines located in the Faculty of Technology, developing traditional computer modelling techniques (such as CAD and VRML) through to abstract dynamic data modelling (from areas such as ecological and intelligent buildings, data mining, and computer network activity), through to scanning electron and atomic force microscopy imaging and links with modelling applications for rapid prototyping technologies. The post will work closely with content providers developing support structures to deliver a sustainable programme of high quality productions for the Dome.

This will enhance and extend existing projects initially funded by the Earth Sciences HEFCE funded Experiential Learning CETL (Centre for Excellence in Teaching and Learning). As well as being an integrating force across the disciplines located in the Faculty of Technology, the post will work closely with members of the Centre for Creative Design and Technology contributing to its efforts to unlock transformative uses of visualisation, modelling and simulation which reach from undergraduate and postgraduate education through to research and into industrial and business practice.

The successful applicant will have a first degree, preferably 2.1 or above, in a digital media, computer modelling or visualisation or a similar discipline. They will have at least one or two years relevant work experience preferred (may include placement experience), with a portfolio of relevant content development. They will have a sophisticated technical ability in 3d graphics software (such as 3D Studio Max, Maya or Cinema 4D), programming skills in interactive media languages (such as lingo and action script) and web based technologies (such as HTML, XML, PHP, MySQL).

They will need to be able to form constructive and supportive working relationships with non-specialist clients, be a strong team member and display a high degree of creativity, energy, enthusiasm and commitment to pushing forward this innovative project. This will require flexibility and adaptability to changing working environments and objectives. They will need research skills, including abilities to search for and evaluate information, and apply appropriate research methodologies.

Recruitment and selection will be based on individual merit, however, we should particularly like to encourage applications from women, black and minority ethnic people who are under-represented in the Faculty of Technology.

For an informal discussion, please contact Mike Phillips on +44 (0)1752 232549 or email: M.Phillips@plymouth.ac.uk, although applications must be made in accordance with the details shown.

UNIVERSITY OF PLYMOUTH JOB DESCRIPTION

3. Main function of job

A Research Assistant to work with the existing team of content producers for the Full Dome Immersive Vision Theatre on the Plymouth Campus. The post will develop dynamic content for the immersive Dome located in the old Planetarium on the Plymouth campus.

4. Main Duties - brief description

Note : In addition to these duties employees are required to carry out such other duties as may reasonably be required within the general scope and level of the post.

Duties/responsibility (in order of priority)

<i>Level of responsibility/accountability should be indicated ie. Direct (D) or Indirect (I)</i>	D/I
1: To work as a member of a team of content developers for the Immersive Dome.	D
2: To take responsibility for the delivery of content for the Immersive Dome based on input from across the Faculty of Technology.	D
3: To work closely with subject experts to generate appropriate material for delivery through the Immersive Dome.	D
4: To take initiatives in developing experimental solutions for the delivery of dynamic content, from traditional computer modelling techniques such as CAD and VRML, through to abstract dynamic data modelling through to scanning electron and atomic force microscopy and links with modelling applications for rapid prototyping technologies.	D
5: The post will work closely with content providers and members of the content development team to develop support structures to deliver a sustainable programme of high quality productions for the Dome.	D

6: Document the methodologies; develop and document associated quality standards and protocols.	
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5. Qualifications/education required:-

A first degree, preferably 2.1 or above, in a digital media, computer modelling or visualisation or a similar discipline.

Experience required :-

One or two years relevant work experience preferred (may include placement experience)

Specialist training required:-

Will be provided as necessary.

Any specific aptitude/skill required:-

- technical ability in 3d graphics software such as 3D Studio Max, Maya or Cinema 4D. Programming skills in interactive media languages such as lingo and action script. Programming skills for web based technologies such as HTML, XML, PHP, MySQL. Some knowledge of deeper programming languages such as C++, JAVA would also be of an advantage;
 - Technical knowledge of interfacing between computing systems in particular for networking and display solutions would be desirable;
 - ability to deliver innovative but stable solutions; an understanding of the importance of this;
 - creativity;
 - able to form constructive and supportive working relationships with non-specialist clients;
 - energy, enthusiasm and commitment to pushing forward this innovative project.
 - attention to detail;
 - a willingness to work until a job is complete to a high standard;
 - research skills, including abilities to search for and evaluate information, and apply appropriate research methodologies;
 - flexibility and adaptability to changing working environments and objectives good organisation, verbal and written communication;.
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MATCHING RECORD – ACADEMIC STAFF

Role Research Assistant	Role Code Research Grade 5
School/Department Technology: SoCCE	Manager
Date of Matching 12 February 2007	

Applies to: Research Assistant in Immersive Dome Content Design

	Matched Y/N	Reasons
Teaching and Learning Support	5	They are expected to contribute to introductory courses but not to supervise student projects or to take any greater responsibility for teaching and learning support
Research and Scholarship	5	They are not expected to develop her own research proposals or to conduct or lead research projects. Their primary role is to support PIs and CIs on their projects, by undertaking much of the research but not being responsible for much of the writing up for publication etc. They do not have a PhD and their research is expected to be routine at this level. They are also expected to pursue the development of her knowledge and skills
Communication	5	Their communication is likely to focus on their own research. They are expected to assist in the presentation of papers to internal or external bodies, and to support the PIs and CIs who will be making applications for external funding
Liaison and Networking	5	Most of their liaison and networking is expected to be routine, to develop internal and external contacts to further research and collaboration. They are not expected to initiate much external liaison
Managing People	5	They do not have overall responsibility for a research project but it is appropriate for them to provide guidance to other members of the project team relating to her area of expertise
Teamwork	5	They are expected to function effectively as a member of the project team but are not expected to support other team members or to collaborate outside the project team
Pastoral Care	5	They are expected to show consideration to others
Initiative, Problem-solving and Decision-making	5	The level of initiative expected of them is consistent with that expected of an RA who does not have a PhD. They are expected primarily to work with standard research techniques and to address issues which will impact on their own research rather than the research of others
Planning and Managing Resources	5	They are expected to manage their own research activity, co-ordinating with others as required. They are not expected to have a wider planning role or take a broader view of the potential use of laboratories or other resources
Sensory, Physical and Emotional Demands	5	These staff are not expected to manage competing research and administrative demands of the project
Work Environment	5	They are required to be aware of the risks in her working environment
Expertise	5	They are is expected to have an in-depth knowledge of her area of research and to develop further research skills in the course of their work

C: Design for Visualisation/ Visualisation DMR.

UNIVERSITY OF PLYMOUTH MODULE RECORD			
MODULE CODE: IDAT213	CREDITS: 20	LEVEL: 3	
MODULE TITLE: Visualisation			
PRE-REQUISITE(S):			
CO-REQUISITE(S):			
COMPENSATABLE WITHIN THIS PROGRAMME: No			
SHORT MODULE DESCRIPTOR (Maximum 4 lines, 12 pt Ariel)			
This module develops audio and visual production skills with a specific application to the manifestation of information drawn from a variety of sources, disciplines and media. Students will develop techniques for rendering visual and acoustic representations across a range of resolutions through animation, illustration, dynamic data, and immersive dome environments.			
ELEMENTS OF ASSESSMENT: (Please consult DMR guidance notes – this is an example)			
(C1) <u>COURSEWORK</u> 100%			
Give Subject Assessment Panel Group (usually Subject Panel Group code) to which module should be linked: IDAT			
Minimum pass mark for professional body accreditation: None			
MODULE AIMS:			
To develop sophisticated practical visualisations in response to a set brief.			
To develop significant technical and creative production skills across a range of software and hardware environments.			
To describe the disciplinary, social and cultural context for the evolution of media forms.			
To make use of innovative practical and theoretical techniques to inform the production of digital art and design.			
ASSESSED LEARNING OUTCOMES: At the end of a module the learner will be expected to be able to:			
1. demonstrate an ability to respond to a set brief with a appropriate level of production skills.			
2. demonstrate technical, practical and conceptual skills in the use of hardware, software and networked systems.			
3. Demonstrate a individual critical exploration of digital media on video, film, multimedia, or audio-visual presentation..			
[IDAT extended Computing Benchmarks] C5 (LO3) C9 (LO2,3) C10 (LO1,3). P7 (LO1), P8 (LO2,3), P9 (LO1). T6 (LO3) T7 (LO1)			
INDICATIVE SYLLABUS CONTENT: Through a range of practical software and hardware workshops, ranging from game engines, data modelling, animation (2&3D), to the use of the Immersive Vision Theatre, students will range of cutting edge technologies and processes used for the manifestation of micro, macro, material, immaterial and imaginary worlds.			
APPROVAL: DATE OF APPROVAL: XX/XX/XX DATE OF IMPLEMENTATION: XX/XX/XX DATE(S) OF APPROVED CHANGE: XX/XX/XX			
FACULTY: Technology	SCHOOL: SoCCE	PARTNER INSTITUTION:	(For FHSW) NAME OF SITE:
MODULE LEADER: Mike Phillips		Session AY	