



e-Prints Soton

Southampton University Research e-Prints

Developing Open Access with Institutional Repositories in the UK

Conferência sobre o Acesso Livre ao Conhecimento
Universidade do Minho, Braga, Portugal
12th and 13th May 2005

<http://tardis.eprints.org>
<http://eprints.soton.ac.uk>
<http://software.eprints.org>

Dr Jessie Hey

Southampton University Library and School of Electronics and Computer Science
University of Southampton

JISC

 **TARDIS**



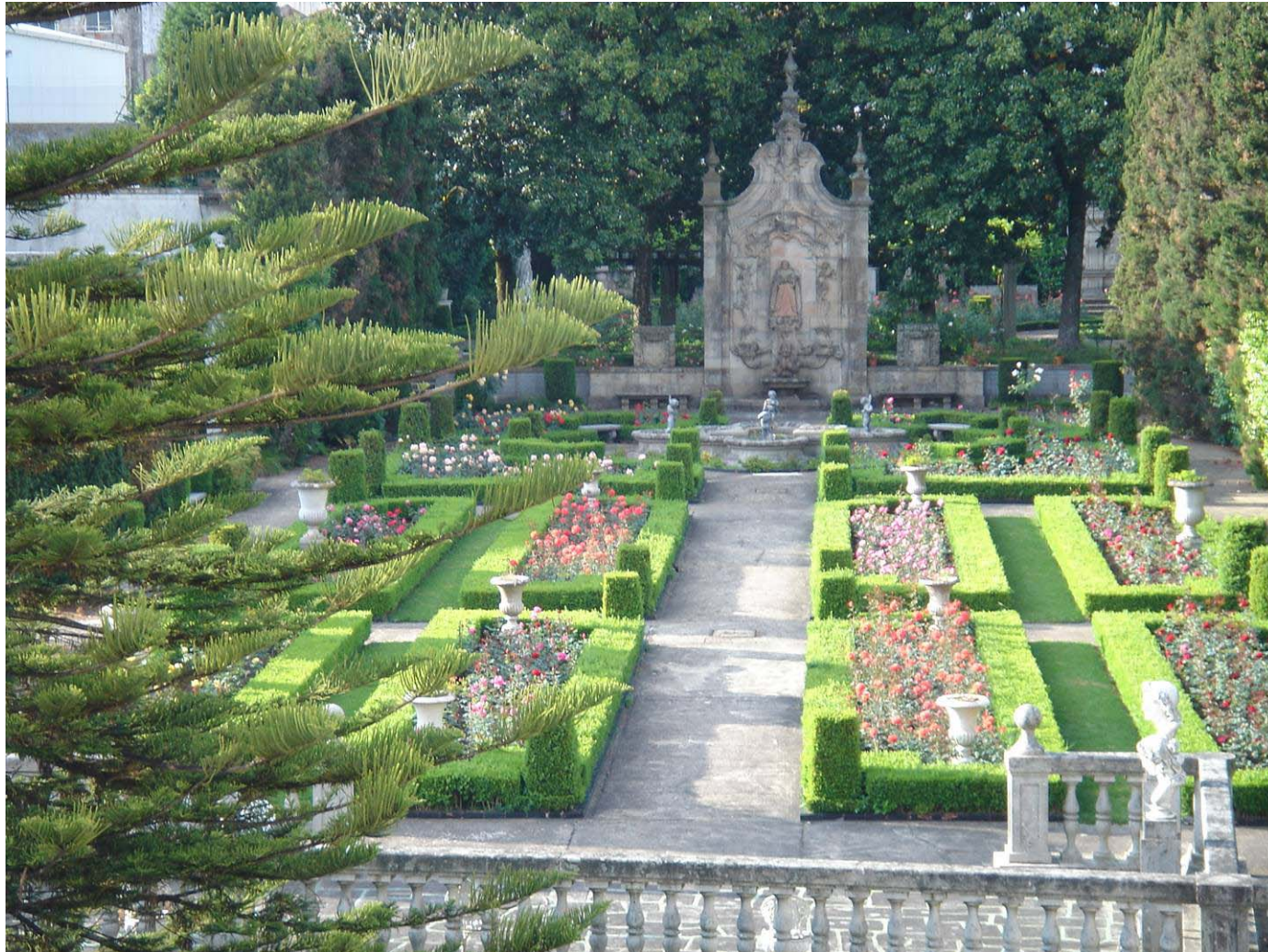
From National Oceanography Centre, Southampton, UK



Questing after Open Access



To the heart of Braga



In an ideal world of scholarly communication – all research is freely available

- June 27th 2004 10th anniversary of Stevan Harnad's 'Subversive Proposal' leading to the open access vision for scholarly material
- See also Harnad, S. and Hey, J. M. N. (1995) Esoteric Knowledge: the Scholar and Scholarly Publishing on the Net. In *Proceedings of Networking and the Future of Libraries 2: Managing the Intellectual Record, Proceedings of an International Conference, Bath, 19-21 April 1995*, 110-16. Dempsey, L., Law, D. and Mowlat, I., Eds.
- And journals become more and more expensive



Even the work of researchers in our own institution is
still often unavailable to us
..... but we're making progress

Some Southampton influences

- Original EPrints software created at Southampton to enable the vision - now used by over 160 institutions worldwide – also spawned other software choices
- Some Soton departments have culture of deposit (but not all OAI compliant and searchable together)
- Electronics and Computer Science use the software for school publications database – now a repository with daily deposits (will be incorporated in e-Prints Soton)



An Institutional Research Repository for Southampton

- Institutional Repository for Research set up (e-Prints Soton) <http://eprints.soton.ac.uk> with TARDIS project to investigate issues for new concept (within JISC funded FAIR programme)

Southampton University Research e-Prints - working closely with individual 'schools' – found that depends so much on publication culture and working practices

- TARDIS project: Feeding back into EPrints software
good citation and information management practice
experimenting with best balance of assisted deposit
- has capacity for adding full text (e-Prints) if available
 - Electronic copies of any research output e.g. journal articles, book chapters, conference papers even multimedia
- TARDIS: Targeting Academic Research for Deposit and Disclosure
- FAIR: Focus on Access to Institutional Resources

Reporting on University practices and needs

Hey, Jessie M.N. (2004) *An environmental assessment of research publication activity and related factors impacting the development of an Institutional e-Print Repository at the University of Southampton*. Southampton, UK, University of Southampton, 19pp. (TARDis Project Report, D 3.1.2)
<http://eprints.soton.ac.uk/archive/00006218/>

See also TARDis article in Ariadne
<http://eprints.soton.ac.uk/8986/>

Share the glory (interdisciplinary papers) and sell your book too



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Combinatorial chemistry and the Grid

Frey, J. G., Bradley, M., Essex, J.W., Hursthouse, M.B., Lewis, S.M., Luck, M.M., Moreau, L., De Roure, D.C., Surridge, M. and Welsh, A.H. (2003) Combinatorial chemistry and the Grid. In, Berman, Fran, Hey, Anthony J.G. and Fox, Geoffrey C. (eds.) *Grid computing: making the global infrastructure a reality*. Chichester, UK, John Wiley & Sons Ltd., 945-962. (Wiley Series in Communications Networking and Distributed Systems).
<http://eprints.soton.ac.uk/325/>

Full text available as:

[PDF](#) - Requires [Adobe Reader](#) or other PDF viewer.

[Microsoft Word](#) - Registered users only - requires Microsoft Word or a .doc file viewer.

Abstract

Chemistry has always made extensive use of the developing computing technology and available computing power though activities such as modelling, simulation and chemical structure interpretational - activities conveniently summarised as computational chemistry. Developing procedures in chemical synthesis and characterisation, particularly in the arena of parallel and combinatorial methodology, have generated ever increasing demands on both Computational Chemistry and Computer Technology. Significantly, the way in which networked services are being conceived to assist collaborative research pushes the use of data acquisition, remote interaction & control, computation, and visualisation, well beyond the traditional computational chemistry programmes towards the basic issue of handling

School or Centre: [Faculty of Engineering, Science and Mathematics > School of Mathematics](#)
[Faculty of Engineering, Science and Mathematics > School of Electronics and Computer Science](#)
[Faculty of Engineering, Science and Mathematics > School of Chemistry](#)
ISBN: [0470353190](#)
ID Code: [325](#)
Deposited By: [Frey, Jeremy G.](#)
Deposited On: 13 February 2004

References in Article

1. Chemical Markup Language, P. Murray-Rust World Wide Web Journal, 1997, pp 135-147
2. Leymann, F. and D. Roller. "Workflow-based Applications", IBM Systems Journal, 36 (1997) 1, pp. 102-123.
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7. Tristan Richardson, Quentin Stafford-Fraser, Kenneth R. Wood & Andy Hopper, "Virtual Network: Computing", IEEE Internet Computing, Vol 2 No 1, Jan/Feb 1998 pp33-38.
8. P. Maes, Agents that Reduce Work and Information Overload, Communications of the ACM, 37, No. 7, 31-40, 1994.

The screenshot shows the Amazon.com website interface. At the top, there's a navigation bar with 'amazon.com.' and links for 'VIEW CART', 'WISH LIST', 'YOUR ACCOUNT', and 'HELP'. Below this is a category bar with 'WELCOME', 'YOUR STORE', 'BOOKS', 'APPAREL & ACCESSORIES', 'ELECTRONICS', 'TOYS & GAMES', 'MUSIC', 'BABY', and 'SEE MORE STORES'. A search bar is present with the text 'SEARCH'. Below the search bar, there's a promotional banner for 'Philips HeartStart Home Defibrillator' with the tagline 'Because every minute counts.' and a 'Shop now' button. The main product listing is for 'Grid Computing: Making The Global Infrastructure a Reality' by Fran Berman (Editor), Geoffrey Fox (Editor), and Anthony J.G. Hey (Editor). The book cover is visible on the left. To the right of the cover, the price is listed as '\$199.05 & This item ships for FREE with Super Saver Shipping.' The original price is crossed out as '\$37.95 (28%)'. The availability is 'Usually ships within 24 hours from Amazon.com'. There are also links for '17 used & new from \$34.00' and 'Edition: Hardcover'. At the bottom, there's a link to 'Search inside this book' and 'Share your own customer images'.

- **Original intent to provide secure storage for the full text of Southampton research output (e-Print Archive including post refereed pre published versions of papers deposited by researchers)**
- **Feedback: maximum benefit if the exercise also assisted researchers with time consuming research reporting tasks: Research Assessment (RAE), University Research Report, web pages, research proposals, CVs etc**
- **Evolved to ‘hybrid’ publications database for all research output with full text where available**

Add your metadata and full text if available and allowed: appropriate for Humanities too



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[TARDIS](#) (Targetting Academic Research for Deposit and Disclosure) is a project funded by the Joint Information Systems Committee (JISC).

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Related Sites: [University of Southampton \(Research Reports\)](#), [Library](#), [TARDIS Project](#), [GNU EPrints Software](#)



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Journal of the Geological Society, London, Vol. 161, 2004, pp. 675-683. Printed in Great Britain.

The White Stone Band of the Kimmeridge Clay Formation, an integrated high-resolution approach to understanding environmental change

S. J. PEARSON^{1,2}, J. E. A. MARSHALL¹ & A. E. S. KEMP¹

¹School of Ocean and Earth Science, University of Southampton, Southampton Oceanography Centre, European Way, Southampton SO14 3ZH, UK (e-mail: jeam@soc.soton.ac.uk)

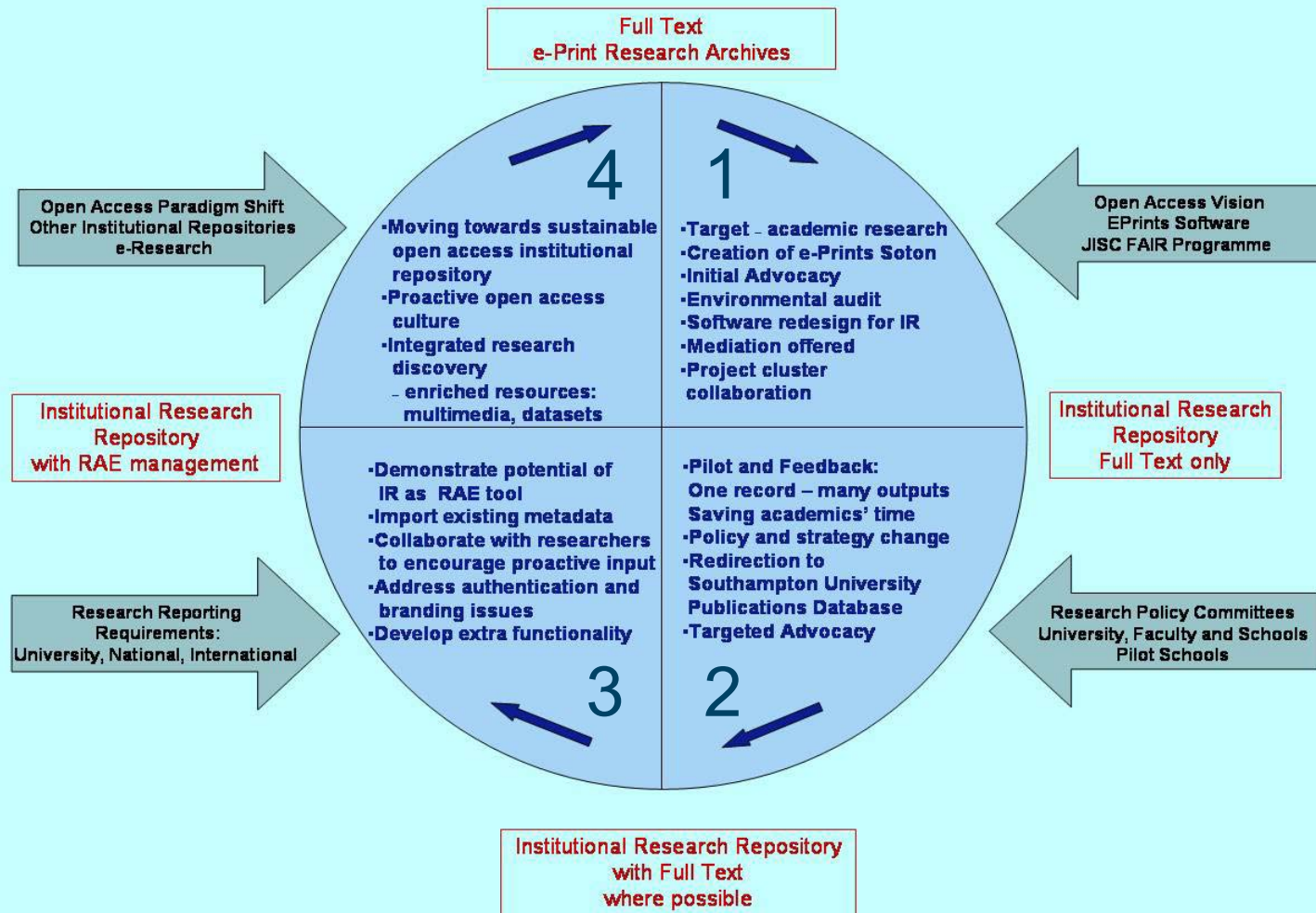
²Present address: 1514A Dominion Road Extension, Mt Roskill, Auckland, New Zealand

Abstract: The Kimmeridge Clay is a Jurassic mudrock succession that shows Milankovitch Band climatic cyclicity. A key issue is to determine how the subtle changes that define this cyclicity result from climatic change. Using material from the Natural Environment Research Council Rapid Global Geological Events (ROGEE) Kimmeridge Drilling Project boreholes, the White Stone Band was investigated at the lamination scale using backscattered electron imagery and quantitative palynofacies. Fabric analysis shows the lamination to represent successive deposition of coccolith-rich and organic-matter-rich layers. Individual laminae contain unsorted palynological debris with a consistent ratio of marine and terrestrial components. Such mixed organic matter input is interpreted as the result of storm transport. Linking water column processes to lamination deposition suggests seasonal input with a coccolith bloom followed by a more diverse assemblage including diatoms and photosynthetic cyanobacteria. As the photic zone extended into the euxinic water column organic matter export to the sea bed underwent minimal cycling through oxidation and subsequently became preserved through sulfuration with greatly increased sequestration of carbon. This was significantly increased by late season storm-driven mixing of euxinic water into the photic zone. Increased frequency of storm systems would therefore dilute the coccolith input to give an oil shale. Hence climatically induced changes in storm frequency would progressively vary the organic content of the sediment and generate the climatic cycle signal.

Keywords: Milankovitch theory, Kimmeridge Clay, organic matter, high-resolution methods, climate change.

1 of 9

e-Prints Soton evolution: aiming for full moon at midnight



Achieving a slower but more sustainable model – the TARDis road

- To achieve the original vision we are moving around the clock face
- Collaborating with academics to provide tailored valued services for different disciplines (needing extra functionality)
- Aided by a fast moving shared international movement

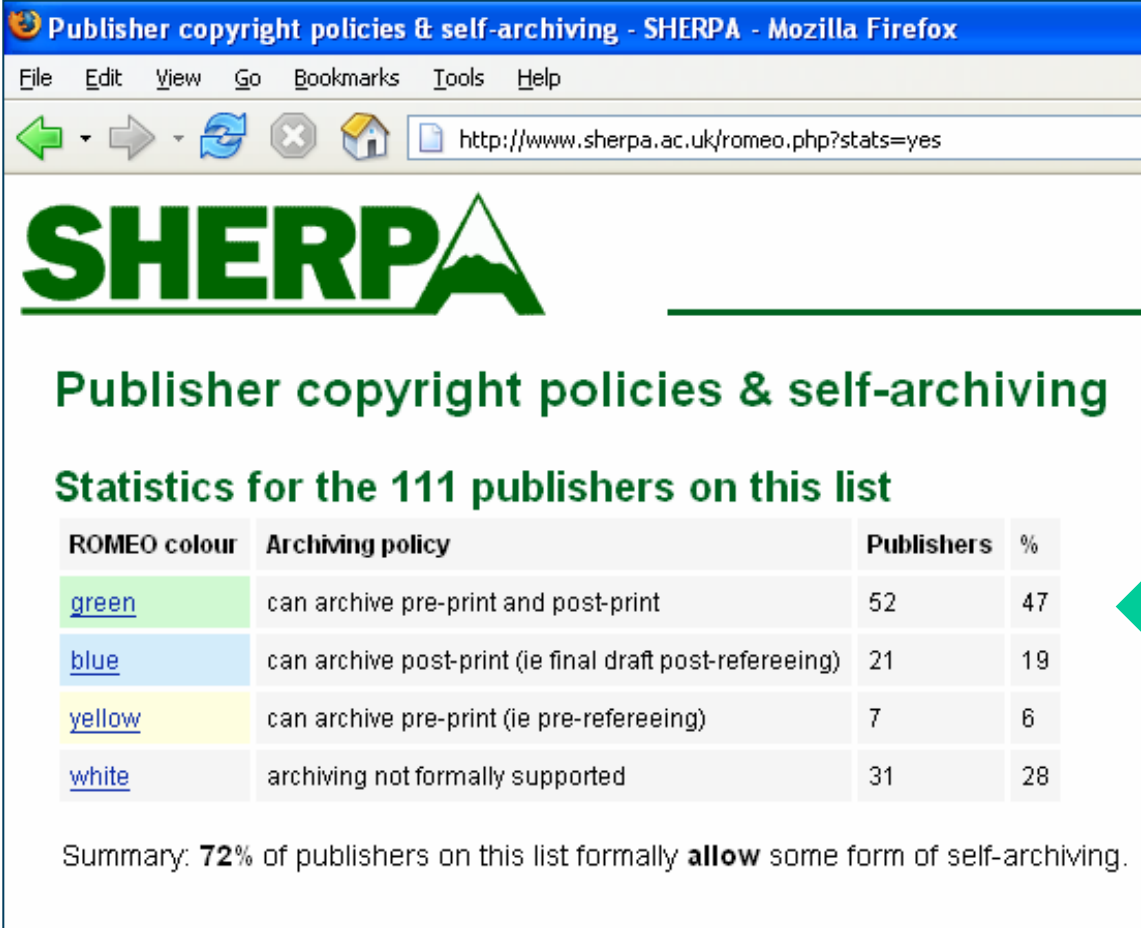
All rising to great place is by a winding stair
Francis Bacon

External climate e.g. Copyright issues changing fast

Common e-Print deposit:

Postprint =
postrefereed pre-
journal version

We provide link to
published version
for joined up picture



| ROME colour | Archiving policy | Publishers | % |
|------------------------|---|------------|----|
| green | can archive pre-print and post-print | 52 | 47 |
| blue | can archive post-print (ie final draft post-refereeing) | 21 | 19 |
| yellow | can archive pre-print (ie pre-refereeing) | 7 | 6 |
| white | archiving not formally supported | 31 | 28 |

Summary: **72%** of publishers on this list formally **allow** some form of self-archiving.

Transition to University integrated service – shared ownership

Southampton University management (agreed Nov 2004) to support the next stage of a library managed repository for key role in research recording and visibility tasks

Collaboration with both Information Systems Services and School of Electronics and Computer Science will continue although TARDIS is completing its transition to invisibility.



Southampton Press Release

15 Dec 2004

'We see our Institutional Repository as a key tool for the stewardship of the University's digital research assets,' said Professor Paul Curran, Deputy Vice-Chancellor of the University. 'It will provide greater access to our research, as well as offering a valuable mechanism for reporting and recording it.'



- Inquiry into scientific publishing
- Written evidence Feb 2004 (127 submissions)
- Oral evidence March-May 2004
- Report 20th July 2004
- Government response Nov 2004

- 82 recommendations
- Improving current practice
- Author-pays publishing model
- And Institutional Repositories
 - UK HEIs to set up IRs
 - Response – up to institutions
 - British Library to be supported to provide digital preservation



RCUK position statement

<http://www.rcuk.ac.uk/whatsnew.asp>

19 April 2005

RCUK Consultation on access to and dissemination of the outputs of research

RCUK has agreed a position statement on access to and dissemination of the outputs of research funded by the Research Councils.

This information was circulated to Vice-Chancellors in March, to give them an opportunity to comment before the document is finalised. RCUK expect to formally release the statement in its definitive form in mid-May 2005.

- But deadline for replies from Vice Chancellors was 11th May
- Generated lots of responses – generally favourable
- Expect to make some detailed changes and issue before end of month

- Reflects the view of 8 research councils

Key points in **draft**:

- Deposit publications for research council funded work in OA repository where one exists, at earliest opportunity and taking notice of copyright
- Engage with stakeholders to develop effective copyright arrangements
- Will allow applicants to include predicted cost of author-pays journals in project costings

Currently 20+ UK IRs starting but set to increase

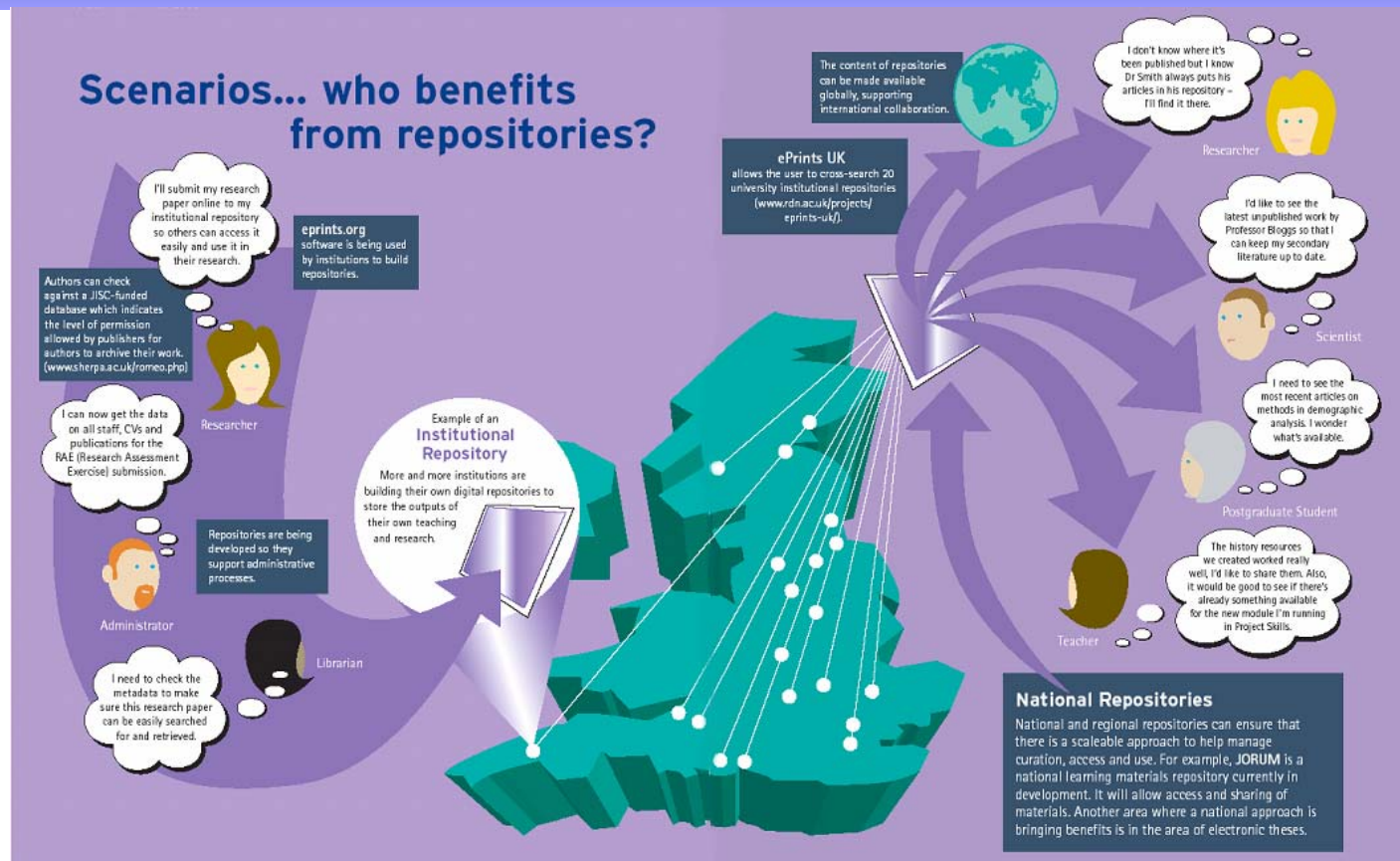
SHERPA network plus....

Guardian March 14, 2005:

Scottish universities sign open access deal

The declaration commits each of its 16 university signatories to setting up online libraries of research findings and doctorate papers which all academics can access

The UK vision: a national and international development of IRs



- The JISC vision reflecting the individual repositories (JISC Inform no. 8)

- Harvesting
- Providing simple national search services
- Added value services

- Research council IRs eg CCLRC
(Physics etc)

National Oceanography Centre, Southampton

- Will contribute to Southampton Research Repository
- UK NERC repositories
- Global Marine Science repositories

A new UK advocacy campaign

- JISC Briefing paper on Open Access April 2005


www.jisc.ac.uk/publications JISC

To start next week under SHERPA banner:

- Framework: leaflets, guidelines etc to chief librarians to distribute
- Guidance for good advocacy campaigns eg template for organising events
- List of topics and speakers

What can you do once you have the Institutional Repository? e.g. News release on new research

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Butterflies' wings dazzle with science

The brilliant dazzle of butterflies' wings could hold the key to a new type of optical material, called photonic crystals. Over the past 15 years, photonic crystals have attracted the attention of a vast international community, as scientists have begun to realise their potential applications in the field of optoelectronics and telecommunications.

According to Dr Luca Plattner, who undertook research in the School of Electronics and Computer Science at the University of Southampton, our understanding of the way that light is reflected from the wings of butterflies could lead to the fabrication of new photonic crystals.


Dr Plattner investigated the optical properties of a periodic nanostructure found on the wings of a tropical butterfly, *Morpho rhetenor*. Several decades of scientific investigation had shown that understanding the source of the butterfly's dazzling blue coloration required the use of the most advanced techniques employed in optical engineering.

Dr Plattner's study explored the remarkable properties of the nanostructures and the physical mechanisms that produce them, both experimentally through optical measurements which complemented those reported by other scientists, and theoretically via cutting-edge simulation techniques developed for photonics. This enabled him to fabricate optical structures inspired by the butterfly microstructure using silicon-based materials and processes that are common in microelectronics. The work was carried out under the supervision of Professor Greg Parker.

'The reason for studying the structure on the wings of that particular butterfly was that it has strong similarities to the photonic crystals already fabricated in the ECS Microelectronics Research Group,' said Luca Plattner. 'I was able to explore a biomimetic process, one in which we can learn new lessons from nature which are beneficial to both engineers and entomologists.'


Dr Plattner's work will be published in the first print issue of the Royal Society's Interface magazine, due out on 22 November.

More Information.
Posted by [Joyce Lewis](#) on 04 Nov 2004.



Morpho Rhetenor butterfly

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e-Print promoted via the link: his other work gets read too!



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A study in biomimetics: nanometer-scale, high-efficiency, dielectric diffractive structures on the wings of butterflies and in the silicon chip factory.

Plattner, L. (2003) *A study in biomimetics: nanometer-scale, high-efficiency, dielectric diffractive structures on the wings of butterflies and in the silicon chip factory.* PhD, School of Electronics and Computer Science, University of Southampton.

Downloads

| File type | File size |
|--|-----------|
| PDF - Requires Adobe Acrobat Reader or other PDF viewer. | 3Kb |

Abstract

Nature is an invaluable source of inspiration for engineers, who draw upon the solutions evolved by species over millions of years, to design new devices or perfect existing ones. The process of transferring nature's designs into man-made devices is called biomimetics.

This thesis reports on a biomimetic study in quantum optics. The microstructure found on the wings of a tropical butterfly holds the secret of its famous structural coloration. The intricate arrangement of low-index dielectric material achieves, in the short wavelength regime of the visible spectrum, an extremely high reflection with a very large angular spread of the back-scattered light and acts as a very efficient low-pass filter. Devices exhibiting these properties may be desirable for applications in a range of fields of optical engineering.

An experimental investigation of the scattering of light was performed on the butterfly microstructure. This revealed a more complex phenomenon than previously thought. In order to carry out the measurements, a novel experimental method for the spectroscopical analysis of the scattering from nanostructures surfaces was developed. This method required the construction of an experimental setup involving supercontinuum generation by means of a photonic crystal fibre and alignment tools with submicron accuracy.

To explain the optical phenomenology of the butterfly microstructure, modelling techniques, which are at the forefront of research in the field of photonic crystals, were used. A theoretical investigation of the band structure of previously unreported crystal lattices occurring in the microstructure was carried out using the plane wave method. A novel numerical method was developed, which enabled computation of the diffraction efficiencies of two-dimensional periodic arrangements of low-index dielectrics. The theoretical investigation accounted correctly for the experimental results.

Using common microelectronic processing techniques, two- and three-dimensional photonic crystals were fabricated, which were inspired by the butterfly microstructure and which shared some of its optical properties.

- **EPrint Type** Thesis
- **Research Group** Nano-Scale Integration Group
- **Deposited On** 15 October 2004 by Gutteridge, Christopher
- **Alternative Locations** <http://utenti.lycos.it/lucaplattner/>
- **ID Code** 10031

Authors

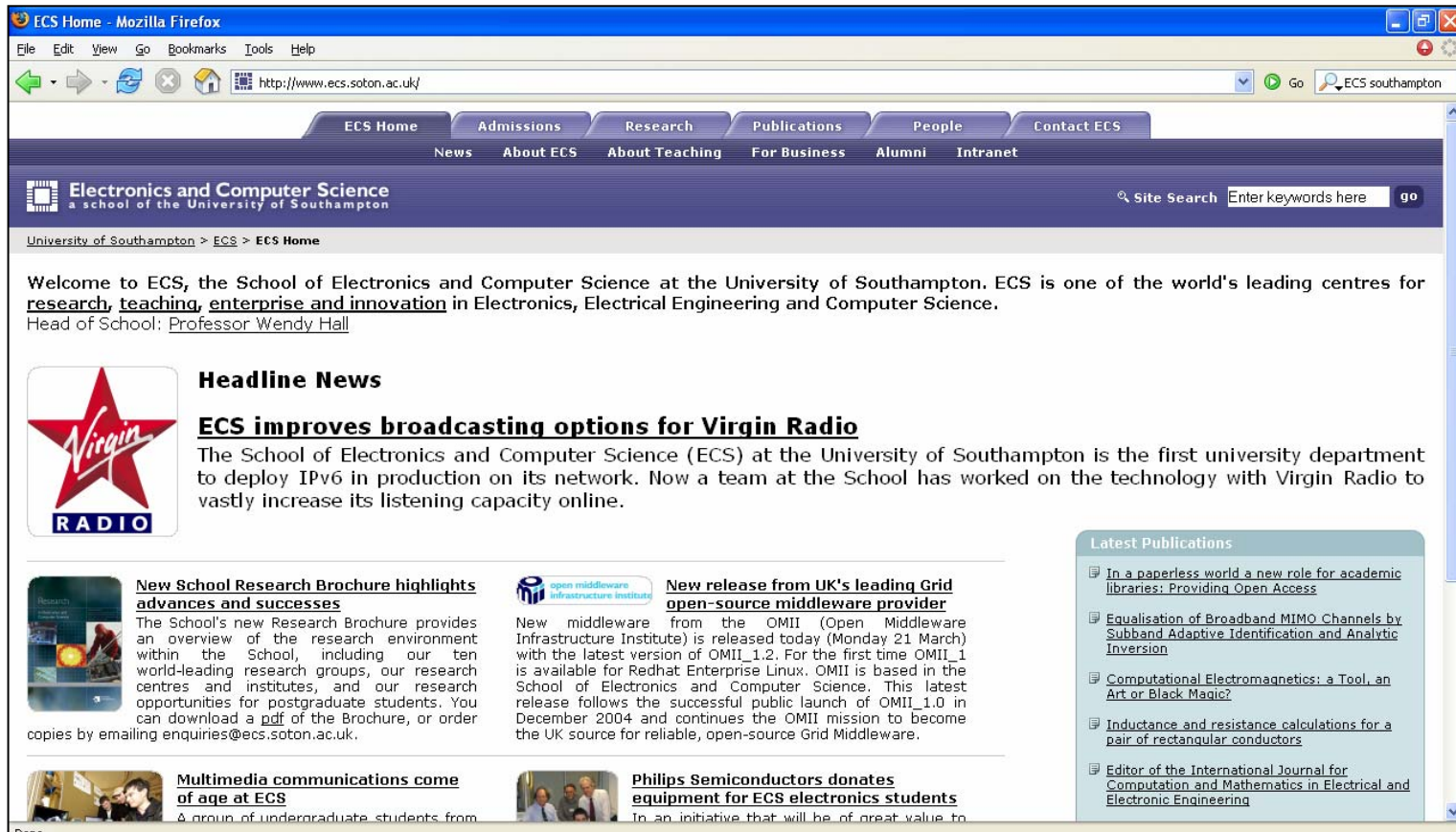
- Luca Plattner

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Adding more functionality with 'Latest feeds' – by web site and screen at entrance



The screenshot shows the ECS Home website in a Mozilla Firefox browser window. The address bar shows <http://www.ecs.soton.ac.uk/>. The website has a navigation menu with links: ECS Home, Admissions, Research, Publications, People, and Contact ECS. Below this is a secondary menu: News, About ECS, About Teaching, For Business, Alumni, and Intranet. The main header features the ECS logo and the text "Electronics and Computer Science a school of the University of Southampton". A site search bar is located on the right. The main content area includes a welcome message, a headline news section with a Virgin Radio logo, and several news items. A "Latest Publications" sidebar is on the right, and a large blue arrow points to it from the right edge of the slide.

ECS Home - Mozilla Firefox

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Welcome to ECS, the School of Electronics and Computer Science at the University of Southampton. ECS is one of the world's leading centres for research, teaching, enterprise and innovation in Electronics, Electrical Engineering and Computer Science.
Head of School: Professor Wendy Hall

Headline News

ECS improves broadcasting options for Virgin Radio
The School of Electronics and Computer Science (ECS) at the University of Southampton is the first university department to deploy IPv6 in production on its network. Now a team at the School has worked on the technology with Virgin Radio to vastly increase its listening capacity online.

New School Research Brochure highlights advances and successes
The School's new Research Brochure provides an overview of the research environment within the School, including our ten world-leading research groups, our research centres and institutes, and our research opportunities for postgraduate students. You can download a pdf of the Brochure, or order copies by emailing enquiries@ecs.soton.ac.uk.

New release from UK's leading Grid open-source middleware provider
New middleware from the OMII (Open Middleware Infrastructure Institute) is released today (Monday 21 March) with the latest version of OMII_1.2. For the first time OMII_1 is available for Redhat Enterprise Linux. OMII is based in the School of Electronics and Computer Science. This latest release follows the successful public launch of OMII_1.0 in December 2004 and continues the OMII mission to become the UK source for reliable, open-source Grid Middleware.

Multimedia communications come of age at ECS
A group of undergraduate students from

Philips Semiconductors donates equipment for ECS electronics students
In an initiative that will be of great value to

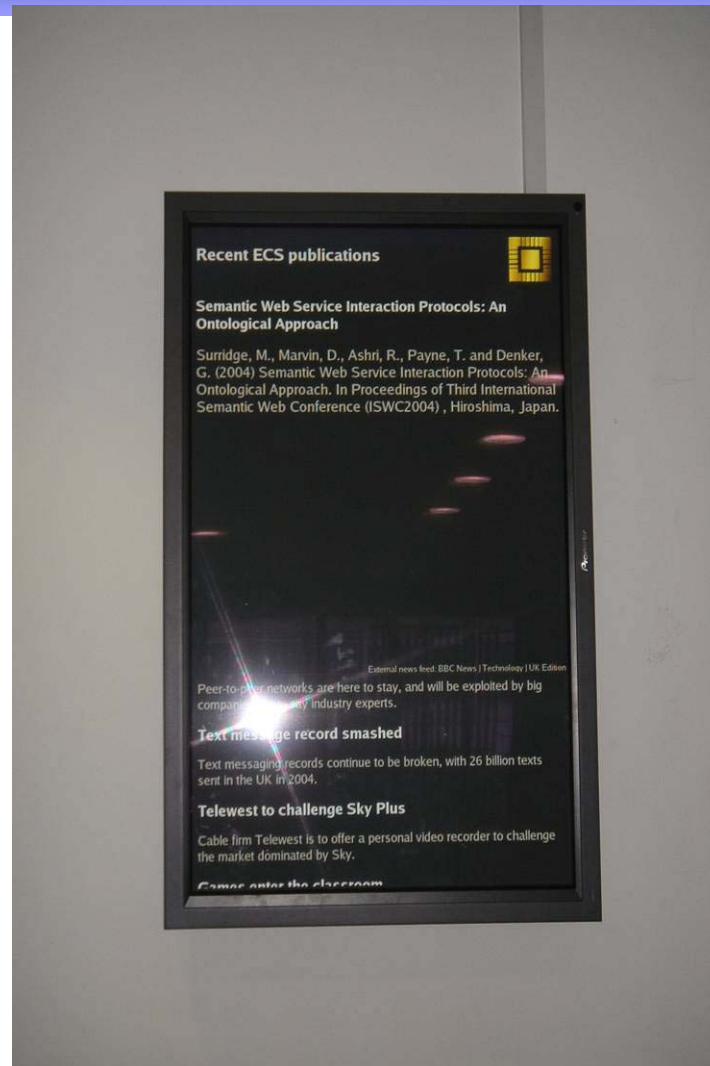
Latest Publications

- In a paperless world a new role for academic libraries: Providing Open Access
- Equalisation of Broadband MIMO Channels by Subband Adaptive Identification and Analytic Inversion
- Computational Electromagnetics: a Tool, an Art or Black Magic?
- Inductance and resistance calculations for a pair of rectangular conductors
- Editor of the International Journal for Computation and Mathematics in Electrical and Electronic Engineering

Screen in foyer – is my paper there?



Hot off the screen



Developing Open Access with Institutional Repositories in the UK

Thank you,

Jessie Hey (jmnh@ecs.soton.ac.uk)

TARDIS Project leading to
Southampton University Research Repository
<http://eprints.soton.ac.uk>

Now building services for the repository and working on the next stage of
development of repositories generally with

PRESERV (PReservation Eprints SERVices) Project

Lessons learnt from FAIR programme:

FAIR synthesis on JISC web site

Best wishes for your own individual and national projects!