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ECS and SOTON Institutional Repositories, Southampton, UK: Southampton University: A School Institutional Repository and a campus-wide one collaborate: One ultimate mission, but different methods and challenges

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ECS and SOTON Institutional Repositories, Southampton University, UK¹

Southampton University: a School Institutional Repository and a campus-wide one collaborate. One ultimate mission, but different methods and challenges.

<http://eprints.soton.ac.uk/>

<http://eprints.ecs.soton.ac.uk/>

Background

The University of Southampton (Soton) has been a pioneer in Institutional Repository (IR) development, and not only since it has developed the EPrints software.

Southampton University's largest School, Electronics and Computer Science (ECS), established an IR in 2001. Collaboration with ECS and a JISC-funded project saw the conception of a larger campus-wide IR set up in early 2004 referred to here as Soton.² Both archives have seen population successes though they still have challenges in reaching the goal of 100% coverage. The achievements of one School and its experiences can positively influence the advancement and population of a greater institutional one. Both archives will therefore be explained in this case study report.

The University of Southampton hosts approximately 20,000 students and 1,500 researchers and teachers. It has 3 faculties (a Faculty of Engineering, Science and Mathematics; Faculty of Law, Arts and Social Sciences; and a Faculty of Medicine, Health and Life Sciences) with 20 Schools and 3 interdisciplinary institutes focussing on health care, statistics and optoelectronics. Electronics and Computer Science (ECS) is the largest School / Department in the largest faculty.

The devolved management of Soton means that Schools with a certain autonomy make the decisions regarding the storage and dissemination of their academic output. This was the case for ECS which set up its IR in 2001, and mandated the deposit of its bibliographic output and full text the following year. This means that some Soton Schools have archives of their own, some open access, and some more historical bibliographic databases. However, evidence has shown that some are replacing their efforts by adopting the library-run central Soton IR.

It is this University Library IR (Soton) which is the integrated archive of the University with an important role to play in the Research Assessment Exercise (RAE) providing a stable infrastructure for bibliographic content. The Soton IR aims to integrate all relevant archived content into one system for this purpose. The library has executive management responsibility of this, in close co-operation with the Information Systems and Services Department, which provides technical support, who in turn works with ECS.

ECS has achieved to populate its IR to cover 67.5% of its academic output so far, and Soton is well on its way (no figures exist on Soton's complete annual academic output as yet). As a result, says Jessie Hey, senior library advisor, and one of the founders of

¹ This case study write-up was executed as part of the *Stimulating the Population of Repositories* research project which was carried out as part of the European DRIVER project <http://www.driver-community.eu/> It was conducted in 2006 and 2007. See <http://dare.uva.nl/aup/nl/record/260224> for the publication.

² JISC: the Joint Information Systems Committee (JISC) is a key funding agency in the area of Information and Communications Technology to support education and research in higher education institutions in the UK. <http://www.jisc.ac.uk/>

the Soton IR, some researchers and postgraduates have increased their interest in studying at Soton due to the papers they have found on the net. If the Soton IR increases to grow as it has to date, this could possibly result in more research funding.

Networking is of utmost importance to Southampton. "It is a given that we have a policy to work more nationally and internationally," says Leslie Carr, researcher, ECS IR Manager and EPrints Head. ECS is currently involved in a significant amount of projects surrounding EPrints, statistics, preservation and data. Carr is also regularly invited abroad to share his ECS experiences with the information professional community. Aside from this, Soton is most interested in seeing a national body of IR Managers collaborating for knowledge exchange in the UK.

Policy

The University has devolved management with no heavy central authority, where Faculties and their Schools have a considerable amount of independence. This allowed the ECS's School management board to establish a mandate to deposit in the ECS EPrints IR at the end of 2002. The policy stated that only papers, i.e. journal articles or conference papers, deposited in the IR would be considered when applying for promotion. This policy saw a considerable increase in the population of ECS increasing from 6.7% full text in 2001 to 31.3% in 2002, with a steady input of content in 2003 and 2004 at about 51%. The RAE mandate of 2005 showed a further 8% rise in full text deposit at ECS in 2005 and 2006.

It was due to the demands on the university to provide extensive information for the RAE that instigated the library to propose the mandate to deposit academic output records university-wide in October 2005. The national agreement between libraries and publishers to only store DOIs has hampered the population of full text current content feel Carr and Wendy White, Head of the Soton IR.³ A new mandate was proposed by the library in late 2006 for the University to deposit journal articles open access (OA), giving access to what is legally permitted be they post-prints or publisher PDFs partly for this reason and which was endorsed in 2007. Soton is also exploring the idea to mandate the deposit of electronic theses university-wide with support from the Graduate Schools Network in 2007 based on successes seen at the School of Oceanography.

The ECS IR is governed by the School's research management committee. It holds meetings 3 times a year, at which Leslie Carr produces management reports. The Southampton IR EPrints Steering Group on the other hand is chaired by the University Librarian, which meets bi-weekly. Strategy and policy issues are discussed, as is liaison with other national IR projects. No formal reporting takes place. The University's Research Policy Committee, on a higher policy level, is used as a sounding board and is the decision-making body concerning larger strategic issues, e.g. mandating deposit and the institutions' preservation strategy. The library IR Manager also sits on the RAE Planning Group with its responsibility in providing the CRIS⁴-like infrastructure for the aggregation of dispersed Soton content.

The Soton Policy Paper outlines submission procedures, metadata, content, data, preservation policy and take-down policy. It is very much a working document.⁵

³ DOI - The Digital Object Identifier System: <http://www.doi.org/>

⁴ CRIS: Current Research Information Structure. Southampton does not have a CRIS, and the Soton IR is taking on this role in part.

⁵ E-prints Policies. Soton policy document. <http://eprints.soton.ac.uk/repositorypolicy.html>

It is hoped that the chances of academic publication upload and IR population will increase even further through such internal policy changes as well as a result of larger national ones. In addition, since 2006, half of the national UK research funding councils now mandate deposit, as does the Wellcome Trust.⁶

Establishing the IR / service and sustainability

The Southampton School of Electronics and Computer Science (ECS)

ECS has had a significant influence on both its own campus repository, as well as on others world-wide using EPrints, developed at ECS. Leading research figures such as Tony Hey, Stevan Harnad and Les Carr have also had a significant influence on the establishment of the IR.

A chain of events brought about the birth of the ECS repository. With a multi-media research group in place, a bibliographic database was developed in 1994 for the department. Harnad then decided to bring his Psychology journal online, and following the example of arXiv.org, he also established Cogprints.⁷⁸⁹ In 1999, The Universal Preprint Service Meeting with Ginsparg, Lagoze, Krichel, Harnad and others established the Open Archiving Initiative (OAI). It was also Harnad who returned to ECS with the aspiration to develop a software platform for OAI, which became EPrints. 2001 saw the ECS bibliographic database of 1994 replaced by EPrints to make way for Southampton's first OAI repository.

Since Soton has no Current Research Information System (CRIS), the ECS IR value to the university became apparent when it was used for aggregating information on ECS's academic output for the university annual report. This opportunity was taken by the management board to set up a mandate to deposit in the School IR stipulating that only journal articles or conference papers submitted to the ECS IR would be considered for applications for promotion.

The ECS IR is run independently of the library. It was the School's research groups who were responsible for managing the archive's content, which still rings true. Nominated editors, varying from Head of School to secretaries, checked the metadata and published it online once validated. However, researchers largely despised the set-up, with yet another administrative task to contend with and angered at the fact that editors showed mistrust and caused delay. This resulted in the editorial function disappearing to allow submissions to go straight through to the ECS IR and be published open access (OA). Carr did some spot-checks for metadata quality control and the Head of School monitored the input by departments. Researchers generally adhered to the policy and complied with deposit for the activity. Material from the system was then converted into word for the annual report. When the next annual report was requested, no special efforts were taken to advocate as many researchers saw the sense in depositing and disseminating their work on the web (as computer scientists). This resulted in more steady deposit in 2003 reaching 50% full text deposit of the School's annual academic output. The data was submitted without much quality control in the hope that things were running sufficiently. The afore-mentioned IR deposit work processes are still in operation at ECS.

⁶ The Wellcome Trust's position statement in support of open and unrestricted access to published research can be found at: http://www.wellcome.ac.uk/doc_WTD002766.html

⁷ Psychology Journal: <http://psycprints.ecs.soton.ac.uk/>

⁸ arXiv.org e-print archive: <http://arxiv.org/>

⁹ Cogprints: Cognitive Science EPrint Archive. <http://cogprints.org/>

With the restructuring of the university, the annual report came to an end in 2003, thereby perhaps threatening the deposit of new material into ECS. This was not the case for several reasons. With a mandate running, and a community of computer scientists clearly aware of the logics of self-archiving, deposit continued. Input increased by a further 10% when a university-wide policy to deposit for the RAE was enforced in 2005. For more on the RAE, see *Soton* below.

Although the RAE helped to populate the IR somewhat, the School still needed to build on getting more compliance despite its mandate as not all researchers were depositing. As a result, Carr, as head of the ECS IR, obtained a place on the research committee, which reported to the School. The Head of Research monitored deposit figures and encouraged research groups to comply. Services were developed by the School to generate listings of all research groups, their researchers, numbers of documents deposited (metadata and full text) and what had been authored by whom. This helped identify loopholes and non-complying individuals more effectively and this monitoring structure is still in place to encourage further deposit. Compliance as a result seems to be increasing on an annual basis after some opposition.

Soton – the Southampton University IR

The Southampton IR (Soton) was fully established once its TARDIS Project came to an end in 2004. TARDIS was a JISC-funded project which demonstrated the development of an IR using EPrints for Southampton University. It aimed at retrieving full text for the University as a whole, extending the efforts of the ECS School. The library and ECS collaborated significantly on this project. For example, the functionality of EPrints was developed to more closely home in on the needs of Soton authors in their workflows for user-friendly deposit, e.g. by optimising the user interface-design for both Soton and EPrints. TARDIS adapted ECS repository functionalities and developed activities and tools to support non-computer scientist depositors from across the campus therefore. Now, a full-time software developer collaborates with ECS on EPrints to customise it for Soton's needs. He feeds back configurations of generic interest to the EPrints team.

TARDIS saw advocacy as crucial for winning top-level support first. It therefore concentrated on making key contacts for the IR. Two senior library advisors sold the IR's key benefits to all Schools and senior management including Soton's three vice-chancellors of research in place over the period of 2 years. It thereby extended the ECS idea to the campus as a whole. Convinced of TARDIS's mission, at the end of 2003, the University issued a press release stating support and finance for the period of 2 years for salaries in the Library, Information and Services and the ECS for IR development.

The university of Southampton IR was established and based on the experience gained with both ECS and TARDIS. Its 2-year embedding period began in 2004, and since 2006 the IR has been running from the library's standing budget.

TARDIS set the foundations for discussions with Schools. Now embedded in Soton, it is the academic liaison librarians, as interfaces between library and faculty, who are the main points of contact for Schools. A campaign took place in early 2006 to educate them on open access, on UK and international related projects, IPR, and other advocacy issues. This staff will be essential in advocating the deployment of full text.

The IRs intend on making university academic output more globally visible and accessible, maximising and better managing the marketing and dissemination of its

research results. The OA archives hope to increase the visibility of previously invisible or less visible research results for the fair accreditation of work. Partly taking on the role of a CRIS, Soton aims to better organise the University's knowledge, i.e. research output, and therefore monitor research progress. This can be most obviously seen in its function as the infrastructure for the RAE. In so doing it will also link research across the university, thereby promoting interdisciplinary research within the institution (a priority for University management) by making it more easily available on faculty pages as well as via the search system. Faculties have also requested feeds on recent publications for their sites.

The content of both IRs (Soton and ECS archives discussed here) are now used for the institutional RAE (Research Assessment Exercise) whereby it is Soton who aggregates data from all schools into one for internal RAE analysis. Unfortunately, the national agreement to insert DOIs rather than full texts has had a negative influence on the deposit of Soton's aim for full text says White. Considerable work therefore has to be done to retrospectively retrieve the full text of matching metadata records as well as to ensure full text deposit in the future. This is where policy and services will play important roles. However, both Carr and White believe that since the deadline there has still been a momentum of full text deposit as a result of awareness-raising surrounding open access for both the RAE and further afield.

The IRs and RAE, are being used as an opportunity to increase the efficiency in how Schools manage and disseminate their academic output. "The RAE is the hook," says White, although she "prefers carrots to sticks".

Soton and ECS

Both Soton and ECS archives use EPrints applying the Qualified Dublin Core metadata standard. IRs are now connected to the University LDAP system since TARDIS. Both promote self-archival by the authors themselves and those authors who do, have proven to provide more full text.

However, the Soton IR is somewhat different to that of ECS. The Soton IR is run by the library, and not by researchers at a School like ECS. The Soton IR also invests considerably in quality control where each record is checked for validation and accuracy, DOIs are added, and metadata is manually enriched with content-relevant information such as keywords. For the RAE, nine full-time quality assurance staff were utilised to monitor and quality control RAE content deposit in the period of six months for the 2006 deadline where 12,251 metadata records were checked. A surge of activity was consequently recorded for the first internal deadline for mid-2006. This meant a large growth in metadata records, with DOIs linking to the publisher PDF. Wendy White says that this is done "to guarantee a Southampton record of quality" although the library does try weigh up the cost-benefits of such activities on a regular basis by analysing workflows.

Guidance and support is also provided by the library who promotes the self-archiving/deposit within all Schools. This service is of clear necessity for the management of campus-wide content.

Southampton University has various archives on data, e-crystals (chemical structures), e-learning, and various project group archives / types of inter-institutional laboratories where internal documents, working papers, and publications are

published and shared, e.g. AGENTLINK or ACT.¹⁰¹¹ The library intends on making these archives cross-searchable. Some archives will coexist as they contain specific material or serve particular groups with specific needs.

There is some internal discussion between the library and some Schools as regards the central IR model into which all Schools deposit in the future versus the co-existence of independent archives. In a devolved institution, it is appropriate for the University to support a model of devolved repositories feels Carr although not all Schools have separate archives. “It is also for reasons of political, managerial and administrative constraints on knowledge-generating activities that such separate repositories may also be the most appropriate solution (e.g. in locally managed inter-institutional collaborations),” says Carr. However, this model does bring concerns regarding permanence, standards and quality where guidelines would be needed without subsuming their management and merging them into one central repository. Carr states, “It is not clear how the Soton IR could that. Whether it acts as an umbrella, a safety net, a backup or a service provider”.

It is through further close co-operation between the library and ECS, which will in all likelihood increase the further population of their archives.

Services

In-house services built upon the Soton data layer have been developed to increase access to Soton material, market research output, save time on administrative tasks, and to promote open access IR deposit. Schools are able to make suggestions for services, which can be taken up by technical resources where resources suffice. Soton and ECS IRs provide a number of different services. The Soton IR for example, can be searched and browsed (by staff ID, author name, title, subject category, date of publication, etc.) to provide access to Soton academic output in an optimal way. Other services have addressed the lack of up-to-dateness of personal home pages and publication lists by creating automatically generated publication lists. Otherwise, usage statistics are provided via the web on demand to research groups and individuals demonstrating research impact. RSS feeds appear in either email format or as an html fragment for insertion into departmental home pages as at the School of Oceanography and Earth Sciences.

A plasma screen at ECS displays the most recent full text additions to the system thereby marketing new research, and proving to stimulate deposit. In the future, the Soton IR will use its data to update university CVs, and it will export bibliographic lists and full texts for grant applications. As regards non-textual data, Soton will look at ways to store data on the Arts in the areas of dance and sculpture for example. Datasets are also a priority for storage in future, particularly so-called orphan datasets based on no high-powered computing. Some researchers have been converted due to the services developed. Some were adamantly against the idea of deposit at first, only to see that it was rather useful to have a url listing an authors’ publications.

Services have been developed by ECS to further serve the research community by visualising the impact that research is having worldwide once it enters into the IR. At ECS, both marketing manager and researcher can now better access the immediate impact of work due to the delivery of statistics by the repository. The School is now better able to track which papers are heavily used, which are new, etc.

¹⁰ AGENTLINK: <http://eprints.agentlink.org/>

¹¹ ACT: <http://eprints.aktors.org/>

As far as further increasing the visibility of Soton IR research is concerned, on a national level, material is harvested from ECS and Soton's IR by INTUTE, the portal for key resources for education and research in the UK.¹² On an international level, access to Soton's research from its IR is crucial in Google. When analysed in 2006, Carr saw that, on average, 97% of all of its referrals came from there. An analysis of Google Scholar's treatment of Soton and ECS has also been made, and it does not seem to rank IR work as highly as Google. ECS is analysing how these systems work to see whether it can influence the rankings of its IR material in the future. In addition, Southampton is exploring co-operation with commercial entities to see how mutual harvesting can take place.

As far as digital preservation is concerned, Soton is committed to preserving its institutional output indefinitely as stated in its policy document. Archives serve as obvious back-ups to Soton research output in the first instance. Soton is also preparing by maintaining a catalogue of current formats, and Carr and ECS intend to do format migration when necessary. As far as long-term digital preservation is concerned, Soton is engaged in national initiatives

Costs and Sustainability

Costs to establish the Soton IR amounted to approximately €13,000 technical costs; 0.5 FTE senior post as IR manager, 0.5 FTE research fellow for advocacy and 0.7 FTE support staff. This seed money came from the JISC's TARDIS Project. The Soton IR has been fully embedded in library activities since 2006. Currently 1.7 FTE work on quality assurance, added value and copyright checks, 1FTE software developer.

White claims that investment has definitely paid off. Having obtained a critical mass, White claims that authors are identifying the benefits and are thus more willing to collaborate due to its enhanced status as a university-wide research service.

Since the end of the TARDIS Project in 2004, the central Soton IR is increasingly gaining popularity with Schools who are in part abandoning their own systems in favour of the centrally organized Soton IR. They consider it a service which is resourced, with stable staffing, where deposit queries are answered quickly and support for academic staff is on hand claims White. This service neither touches on School resources.

In summary, investment made seems to have been wise seeing increased university take-up where some Schools are discarding their own archives for the central Soton IR for reasons of cost-effectiveness.

Populating the IRs

Southampton is aiming for 100% coverage of its academic output in its IR, and hopes for the active engagement of all Schools therefore. Early adopters have been from the Schools of ECS, Oceanography and Earth Sciences, Opto-electronics Research Centre, Engineering Sciences and Education. About a third of Soton's present content comes from the successful ECS archive (as in Dec. 2006). Those far less represented are researchers from the Humanities and Management with concerns surrounding copyright. The Management School seems to fear that collaboration with external or commercial partners may be jeopardised by making material OA.

¹² INTUTE: <http://www.intute.ac.uk/>

For the Soton IR, depositing mechanisms are somewhat more complex due to the autonomy of Soton's Schools. One-third of authors deposit directly into the Soton IR, other Schools maintain their own archives with full-text archiving facilities, e.g. ECS, though not all archives are necessarily OA. The remaining third have their own historical bibliographic archives with no full-text. The Soton IR imports data from the last two-thirds. The library sees a movement to give up departmental databases in favour of archiving full text with the Soton IR, also due to the RAE, e.g. Schools of Mathematics and Psychology.

The library does not self-archive for others at present. Schools deposit in various ways, and this is largely dependent on their internal administrative and communication structures. The School of Humanities has a nominated individual who inputs all of the School's material for example. Bio-medicine services even had a mediator, but due to the administrative load and costs, this support was discarded in favour of individual deposit. Researchers from the School of Engineering Sciences are also regularly depositing themselves. White claims that those authors self-depositing themselves are submitting far more full text. The library promotes this method as being the model for future sustainability. ECS researchers directly deposit into the ECS archive, although they may also use administrators as support in some cases. Electronic announcements are sent via e-mail to department researchers as a reminder to deposit.

The key reasons for researchers depositing are complying with the mandate, the RAE, visibility and improved access, wanting to deploy publication lists on web pages and RSS feeds and the improved organisation of their own research articles.

Soton aggregates articles, books, chapters, working papers, proceedings, peer-reviewed conference contributions, theses, dissertations, reports and multimedia files such as audio, image and video files. All of the School of Oceanography's new theses have been electronically deposited in the IR. However, this is no prescriptive list, but openness is kept also to allow for new media types, e.g. stream-videos. It should be pointed out that Soton's library has "a policy not to dictate to the Schools" and rather aims to serve them and their specific needs. Schools have the autonomy to define what academic output they wish to deposit together with the library. Content type is thus very discipline-dependent where midwifery and nursing highly value conference proceedings, whereas medicine demands more journal articles. ECS mainly aggregates journal article and conference papers which are the main means of publication in the computer science area. In the future, Soton intends on adding primary datasets. Content is mainly in the English language although other European language content is in all probability contained but not recorded.

Soton aggregates any versions of material from the Schools which are classed as academic output, although post-prints and publisher versions of journal articles are preferred which is reflected in the new Soton policy. Southampton is also intending on studying the divergence in content between post-prints and publisher versions were funding to be granted.

In addition, some Schools are keen on including older metadata on important historical output or publication list references, which means that the repository is also being populated with older material, e.g. from Operations Research, School of Education, Ocean and Earth Sciences where take-up has been greatest so far. This is despite the fact that both ECS and Soton IRs focus on current content. Also, for this reason, Soton does not generally carry out retro-digitisation although it does have the

facilities in place to carry out the digitisation of theses for example, were the need to arise.

Due to the RAE mandate of 2005, and ECS and its mandate running since 2002, new material is increasingly and regularly entering the system, though be it often metadata. Full text deposits at ECS have been steady since 2004 whereas Soton deposits have dramatically increased since 2005 as researchers become more aware of making their work more visible via RAE activities (see *Statistics*).

It is crucial to extend the population of full texts of the Soton archives. Due to the existence of some older bibliographic databases, and due to the RAE which does not always contain full text due to DOIs, Soton has more metadata and less full text than it would have hoped for. Apart from implementing policy and advocacy efforts to deposit full text in the future, various activities have been designed to address further population. ECS, for example, scouts publisher sites for publisher PDFs where publishers allow. The library also informs researchers of requests for full text made by practitioners, bringing new possible collaborations between research and practice.

Another method devised by the EPrints team, may change the frequency of and motivation to deposit in the future. At least, this is the Soton hope. EPrints has devised a method which actively pushes for more full text deposit from the individual. Although there may only be metadata for some records, a button is placed on the web interface next to the metadata record which mails the author to request the full text. As a result, Carr claims that researchers are then more likely to deposit to avoid being frequently asked for paper which is not yet online. He has seen this work in practise.

It is known that researchers deposit with other data or service providers such as arXiv.org, BioMed Central, The Astrophysics Data System (ADS), as well as the Arts and Humanities Data Service.¹³¹⁴¹⁵¹⁶ Researchers who deposit with these services for example, are often reluctant to also deposit with an IR. These hearts are partly still to be won. As an interim solution, ECS has tried to harvest from outside to retrieve Soton content, e.g. from arXiv.org, but this was not permitted.

Soton's devolved management brings challenges with it to aggregate the full text quality content of the University. However, services and support by the library as well as by School archive co-ordinators will further increase the Soton academic output stock of information. The RAE is also seen as an opportunity by the library and Management to bring authority and value to the archival of this content although more related full text is needed.

¹³ arXiv.org: <http://arxiv.org/>

¹⁴ BioMed Central: <http://www.biomedcentral.com/>

¹⁵ The Astrophysics Data System (ADS): <http://ukads.nottingham.ac.uk/>

¹⁶ Arts and Humanities Data Service (AHDS): <http://ahds.ac.uk/>

STATISTICS

Academic take-up

ECS: 30% of all 587 researchers, academic staff and postgraduates

Soton: 7% of all 1,500 active research staff recorded as part of the RAE.

Percentage of academic output

Academic output ECS 2005: 60.3%

Academic output Soton 2005: No reliable figures available

Total records

Total records and by type *ECS* as registered in March 2007: 11,011 records, with 3,524 object files (32% full text). Full texts include 1,677 proceedings (48%), 1,272 articles (36%), 223 working papers (incl. technical reports) (6%), 141 chapters, 70 theses, 39 books, and other materials.

Total records and by type *Soton* as registered in March 2007: 23,764 records, with 3,128 object files including 1,118 working papers (36%), 1,010 articles (32%), 585 conference contributions (19%), 213 chapters, 154 theses, 8 books, and other materials.

Object numbers by year

Object numbers by year of publication ECS: 2004: 557; 2005: 578; 2006: 780.

Object numbers by year of publication Soton: 2004: 352; 2005: 1149; and 2006: 1426.

Full texts freely and openly accessible in 2005: ECS 60.3%, and Soton 22%.

Communication / advocacy

White and her Soton IR team see advocacy as invaluable in gaining take-up across campus. Much advocacy was done during the time of the TARDIS project to approach senior management and all Schools on the potentials of OA at Southampton. This was for reasons of policy development and to obtain top-down support. White points out that it is in addition crucial to engage people on all levels involved in the depositing process. This means addressing the IR to managers, champions, research groups, researchers and secretaries. The library's challenge is then to address the diversity of needs by adapting to each group and to be aware of opportunities to increase the chances of take-up by all concerned for the steady population of the Soton IR.

It is the library's academic liaison librarians who advocate the IR and the importance of its population. They inform researchers of the benefits of deposit such as further research impact and potentials for collaboration for example and demonstrate specific services which can assist them in their research such as bibliographic streams for web pages. This is given in the form of presentations and seminars. Individual support is given to those who are new to deposit needing advice.

Soton has created a website and search service to its IR at <http://EPrints.soton.ac.uk/>

This also features a Help and Information link to a description of the service, and more particularly advice to depositors and users including contact information.

Otherwise, Soton takes advantage of the JISC/SURF work on copyright, and ROMEO and JULIET sites which are important links for referral regarding questions on

copyright for example.¹⁷¹⁸ FAQs for the IR are currently under development based on Soton experience.

White does not believe that PR material is the best way of tending to varied needs across disciplines. Standard PR materials such as leaflets or brochures “get lost in the noise”, she therefore prefers the personal approach. Posters and fliers have, however, been produced for conferences in order to share Southampton experiences with the information professional community.

Little local advocacy has been used at the ECS on the other hand, although Carr promotes EPrints and the Soton or ECS IRs abroad to the OA community. Preaching to the converted computer scientists seemed inappropriate. Carr, as IR manager of the School, felt that with a mandate in place since 2002, it was a rule to be followed and a responsibility to be taken by ECS researchers. White does, however, believe that it has been significant. “Advocacy has been absolutely key to our IR - without it there would be no full text in the repository - or a small amount from keen people who wished to deposit anyhow,” says White. The difference between how the two IRs approached advocacy may partly be explained by their difference in scope and corresponding challenges. However, both ECS and Soton ultimately share the common goal of obtaining 100% coverage of their academic output and if advocacy can assist in achieving this aim it may be increased on both fronts.

Legal issues

Southampton researchers own the copyright on their books, articles and lectures apart from work commissioned by the University.¹⁹ A lack of awareness amongst researchers surrounding the self-archiving of peer-reviewed articles in particular is still an issue to contend with for Soton. Carr endeavours to follow the recent publication deposit of articles in prominent journals at ECS for example. He informs individuals of the possibilities open to them through self-archiving, and of the corresponding publisher policies encouraging them to deposit if they have not already done so.

It is also evident that publishers strong in certain disciplines such as Law have not generally supported self-archiving so far, which also prevents Soton IR population. The library is therefore starting to look at directly contacting specific publishers for permission to store material open access based on university contacts. Copyright is also a significant hindrance for deposit in some areas such as the Humanities where books are more prevalent. These issues hamper achieving the overall goal of complete coverage.

Soton does promote copyright transfer statements to individual academics in response to specific queries made to the library on deposit. “This is not promoted broadly across the campus, however, as many younger academics feel that they are not an option as they have no bargaining power,” concludes the Soton IR Manager.

Southampton clearly respects publisher policies as if there is proof of copyright violation on content contained in the IR, Soton policy states that offending material will be removed immediately from public view.

¹⁷ Sherpa / RoMEO: <http://www.sherpa.ac.uk/romeo.php>

¹⁸ Sherpa / JULIET: <http://www.sherpa.ac.uk/juliet/>

¹⁹ For more information, see <http://www.calendar.soton.ac.uk/sectionIV/part22.html>

Critical success factors (CSFs) for populating a repository

The following CSFs have been identified by Southampton for populating a repository:

- Ensure that you have a demonstrator as rapidly as possible.
- Engage all levels of faculty for support from management to researcher to administrator.
- Obtain the support of heads of schools, university vice-chancellors and university management teams.
- Acquire institutional buy-in by utilising opportunities such as the Research Assessment Exercise (RAE).
- Listen to your researchers, know what their problems are and tell them how you will address them by providing meaningful benefits.
- Ensure that your IR delivers added value services.
- Ensure that the deposit system is straightforward.
- Be able to respond to positive take-up with the infrastructure and resources for support in place to be able to deliver.
- Showcase population successes and research impact by publishing statistics.

The learning curve

The following issues have been identified by Southampton which can hamper the population of a repository:

- Reluctance of some researchers to deposit due to fears relating to copyright
- Cultural practices of self-archiving with other information services
- Researchers do not see the benefits in complying with yet another administrative task, questioning whether non-compliance will have any effect.

Issues for possible further investigation

1. In a setting of devolved management, which model will better guarantee population: autonomous departmental/school repositories or a central university one?
2. How far can new technological functionalities reach an archive's aim to populate such as the email full text link? Will these push mechanisms result in encouraging the research community to deposit or rather discourage it?
3. If carrots are preferred to sticks, have incentives been exhausted or are there more ways to achieve complete academic output coverage? Or are sticks needed?
4. How important a role does quality control have to play in populating a repository? Is it cost-effective?

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