Ticer International Spring School on the Digital Library and E-publishing for Science and Technology


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The Tilburg Innovation Centre for Electronic Resources, known as Ticer (www.ticer.nl), is a for-profit arm of the Tilburg University Library in Tilburg, The Netherlands. It is devoted to professional development activities and to make available consultancy services to third parties by offering a range of programs, courses and seminars that demonstrate Tilburg's role in digital libraries and information technology infrastructure. Now in its seventh year, along with numerous other institutional partners worldwide, a series of several courses is offered each year with different emphases and focus. I was fortunate to attend the most recent program/course on the Digital Library and E-publishing for Science & Technology that was held at CERN (www.cern.ch), the European Organization for Nuclear Research and the world's largest particle physics center on the border between France and Switzerland, just on the outskirts of Geneva. Founded in 1954, the laboratory was one of Europe's first joint ventures and today has an enormous research program, with participating scientists collaborating from around the world. Nearly 6,000 scientists, half of the world's particle physicists, along with technical support work at CERN and are representative of 500 academic affiliations and 80 nationalities. Growing from 12 original members, today there are 20 Member States and more than 1,800 physicists participating from 30 plus non-Member States. Other interesting trivia about CERN – it is home to the world's largest magnet, weighing more than the Eiffel Tower, the biggest accelerator is 27 kilometers in circumference and particles travelling near the speed of light lap it over 11,000 times each second. Underway is the experiment to build the next accelerator due to be ready in late 2006 at a cost of over $10 billion. This experiment will generate data at a rate about equal to everyone on Earth simultaneously making ten telephone calls each.

To a librarian, especially one who works in the physical and applied sciences, CERN holds special curiosity and status. It was at CERN where Tim Berners-Lee, a CERN computer scientist, invented the World Wide Web in 1990 with Robert Cailliau. The Web was introduced in North America by Dr Paul Kunz of the Stanford Linear Accelerator Center (SLAC) on the Stanford University campus later that year, where the first Web site was created with the content of the site based on library resources. It is the physics community to whom we acknowledge the Web's conception and the spirit of collaboration that is so well established among high-energy physicists. A few years later, at Los Alamos National Laboratories, Dr Paul Ginsparg created the first preprint server, www.arXiv.org that recently moved to Cornell University. Thus, a week at CERN was a sufficient attraction in luring many registrants to this course. The surroundings of the Swiss Alps, a peak of Mount
Blanc, the serenity of the lakes and the excitement of the rich history of Geneva's international community made this location indeed special.

However, I want to convince you that the curriculum and roster of speakers was the main draw, and to spend a full week without distractions thinking about the issues and trends of electronic publishing in the sciences could make one appear self-indulgent. One would imagine that with such a time commitment, it would be a very good hit rate if half of the sessions and time was considered worthwhile content, but in this case nearly the entire program could be considered important. About 50 registrants joined a faculty of about 17 speakers, representing science libraries, computing, scientific scholarly publishing (commercial and society) and the academic community, and it was this intersection that proved so vital. The majority of participants were from western Europe, with the largest number from Switzerland, and smaller numbers from Italy, France, Belgium, The Netherlands, Denmark, Norway, Finland, Sweden, the UK, the USA and Japan.

The speakers came primarily from The Netherlands, the United States and the UK. Kudos for the entire program content goes to Rick Luce, Director of the Research Library at Los Alamos National Laboratory (LANL), who served as Course Director, and Jola Prinsen from Ticer. Nothing was left unplanned. Luce gave several presentations himself on the following topics, "Self-publishing: case study and lessons", and the "E-prints intersect the digital library: inside the Los Alamos arXIV," each of which was an overview with a different spin of the arXiv PrePrint Server, founded by Paul Ginsparg and Luce and formerly based at LANL and now at Cornell, and what the physics community birthed a decade ago as the first preprint server that has sustained itself so well and served as a model for other disciplines to replicate. Luce reiterated the organic/holistic approach to problem-solving that stimulated our thinking well into the future. The final presentation delivered by Luce was on "Open archives initiative: interoperable, interdiscipliary author self-archiving comes of age", which built on the entire seminar.

After that setup, there can be no anticlimax. Each session became more enriching as the discussion opened up and the issues became more complex. At the end of each day, one felt full and could only absorb so much. And by the week's end, the sense of completion was there but not the sense of closure as we all return to our respective libraries and organizations and consider how we can implement small ideas we learned and share them with our colleagues.

So what was all this content? The first speaker was Hans Geleijnse, formerly University Librarian at Tilburg and currently the Director of Information Service and Systems at the European University Institute in Florence. He gave an overview of electronic publishing and recapped the journals crises and some global solutions to the problem; how the information chain is changing and some new players, content and formats are now in practice. His conclusion was that it is not yet sufficient what is transpiring and that E-publishing is not providing the solution and that new communities of open archives and subject-based document servers and portals will be the next chapter with many options for value-added features, including selection, metadata, manipulation, customization, and linking. How libraries will respond to these challenges was the context of the remainder of the seminar.
No program of this nature is complete without a contribution by a systems expert, and the Director of the Tilburg Computer Centre, Teun Nijssen which gave a comprehensive overview of library content priorities and digital library projects at Tilburg. That progressive environment has experimented with many initiatives for the adoption of XML. What I took away from his talk, was that "Technology is a human construction," the organization requires lead time to develop projects and issues must be scalable. This means that one must consider the size and scope and, for bigger projects, predictions must be made and project organization is the key to success. The hints he gave are all too common but hardly practiced: division of labor is essential; do not run from the challenges; shield programmers from library management; interface with the human aspects of the project; and small groups function well for communication and making progress as the project unfolds.

As already indicated, an attraction to this seminar was its location at CERN. Two papers from CERN brought local attention to the library environment of this international center. Jens Vigen shared a case study of daily operations of the CERN Scientific Information Service and how all this e-content is managed and made accessible so quickly to the global physics community, and what a fast paced chronology it has been. He also arranged library tours. David Dallman, a physicist at CERN, gave an interesting chronology about how his library is handling the transitions of harvesting metadata and what that allows for greater and more relevant citation retrieval. Jonathan Clark from Elsevier gave a very insightful talk about the strategy of Elsevier in adding value from a commercial publisher and what the marketing implications are for information distribution. The candor of this paper forces the library community to take a breadth and realize the range of contributions a mega-publishing force such as Elsevier has made to where we are today in e-resources. It is not fair to have only one publishing giant on the stage, and Springer Verlag was represented by Gertraud Griebke who offered the e-publishing strategy of her company and the new workflows that have allowed not only the traditional journals to have an e-life, but the book/monograph series such as the Lecture Notes in Computer Science and other product lines which are now increasingly available online in fulltext.

Not exactly in the order noted here, but David Stern, Director of Science Libraries of Yale, gave a very compelling presentation on "Library pricing: trends and futures." Those of us who track his Web site http://www.library.yale.edu/scilib/jrnlsol.html were not overly enlightened by new information, but he articulates it well and tracks it for us to share with our faculty colleagues and hopefully influence them to practice better scholarly communication habits, for which we are most appreciative. I am sure that the European community was incredibly impressed by his articulation of the issues of pricing models and the information marketplace.

This kind of seminar could not come to pass if a presence from the American Physical Society was not there. Mark Doyle delivered a presentation about the process taken by APS since 1995. He shared the whys of e-first publishing and how vital this is for the physics community and new challenges of incorporating multimedia in articles, and tracking the different versions of an article and what will emerge as the "version of record," a very serious issue to librarians. Another American, Richard Johnson, Director of SPARC at the
Association of Research Libraries, spoke about the latest developments in SPARC, particularly with the birth of SPARC Europe. His emphasis was on what kind of marketplace to support scholarly communication is evolving, but with successful alternatives clearly in place and more on the horizon science authorship and science are experiencing a fruitful relationship with more price-sensitive products.

Fred Friend from University College London, a pioneer in the British consortia movement and a supporter of SPARC Europe, addressed the status of the Budapest Open Access Initiative (http://www.soros.org/openaccess/) and the Public Library of Science (http://www.publiclibraryofscience.org/plosjournals.htm). Neither of these initiatives is the perfect solution but each has an extensive following to promote universal access to content immediately upon publication at reasonable terms. Endorsed by the scientific communities, these programs have significant work remaining to make them a reality. Friend also delivered a very good summary of library consortia development in the UK, especially the National Electronic Site Licence Initiative (NESLI).

Licensing issues are a universal challenge but predicated upon the jurisdiction and national laws for where the provisions and contracts are being made. A great friend of libraries around the globe, Emanuella Giavarra, barrister in London, focused her presentation on "Licensing dos and don'ts." The European outlook and specifics of each country complicate things greatly but the recent legislative activities of the World Intellectual Property Organization (WIPO, based in Geneva) and the European Commission hold international interest. She has advised many library clients about how to negotiate with publishers and information suppliers, and particularly British libraries and consortia such as NESLI (www.nesli.ac.uk) are so much wiser for having her counsel.

An example of a multitype academic library consortia was explained by David Kohl as he described US Consortial Licensing practices and the example of OhioLINK (www.ohiolink.edu). The "win-win" for all parties – libraries, patrons and publishers – was demonstrated by several years of data extraction proving that universal access or mass purchase for journals from major publishers can be negotiated with great success. The OhioLINK model achieves one central thing – it eliminates the need to deal with aggregators, and libraries will indeed be surprised by the heavy use of material to which users formerly had no access. Kohl also reminded the audience of tools to achieve this success and the work of the International Consortia of Library Consortia (ICOLC – http://www.library.yale.edu/consortia/).

One of the biggest treats of this seminar was to hear Herbert Van de Sompel, who just moved to Los Alamos, deliver two addresses, "Interoperability standards to facilitate the efficient dissemination of content," and "Reference linking and the OpenURL." Both were very stimulating and his explanation made each of these complex subjects seem easy and let us conclude that the hybrid library environment is not only receptive to this interface potential but ready for more content to have SFX capabilities. All librarians should hear his clear and simple explanations. I remain eager to follow his ongoing work and how LANL introduces it in information retrieval practices.
Another very interesting presentation was on "Digital library and e-publishing developments in chemistry," which was made by Engelbert Zass from ETHZ, the Swiss Federal Institute of Technology/Chemistry Biology Information Center in Zurich. Those of us who work in consolidated science library environments are very familiar with the long and rich tradition of access to the chemical literature, which Zass chronicled for us. The sheer quantity of chemical information – "almost 40 million chemical compounds are reported in databases, growing by no less than about 130,000 new compounds each week" – confirm how remarkable managing such databases of research output really is. Chemistry has also been at the forefront of the archiving piece of the information dilemma and library consortia have by and large been generous to chemistry as the cost of the information remains among the highest, as is the rate of output.

The final session was convened by Rick Luce, who set up a summary of issues that he entitled, "Future role of science libraries." The implications for digital libraries are many and well known, but as "research is a race against time," the stakes become higher and more significant. As librarians we need to jump-start our thinking to "dislodge definitely the curiously prevalent notion that the future electronic medium will strictly duplicate the current print medium." As soon as we do that, we can develop new partnerships with the information industry and perhaps influence how we develop our collections and access to information programs, guaranteeing perpetual access.

The concept of innovation was stressed in the context of better blending collaboration with a clear customer focus and operational excellence. Luce gave everyone a strong sense of how that can be achieved by outlining a strategic framework that is responsive to our user community. It can be applied to a variety of library settings, large and small, and new relationships between users and the information products will likely emerge utilizing new access methods.

Well what a week it was. It seems trite to conclude that any one experience can influence one's thinking so much. The information was not new, but being able to indulge in such a setting with colleagues from around the globe, to share, learn about local practices and priorities made for a very special time. Professional development means different things to people but this experience reaffirmed how small the world can be and how much we can learn from one another. The relevance of the content, the planning and execution by the course director and Ticer staff, and the consistently high calibre of the speakers made for an exceptional time, clearly one of the most worthwhile I have participated in. If this was a true example of what Ticer offers; I encourage colleagues to monitor the Web site, and try and attend a future course or summer school on the digital library. Also, such memories of Geneva, the tour of CERN and the new friendships made will be lasting.

Without giving any bigger plug, this course was successful due in no small measure to the Ticer operation. You may want to review the upcoming course offerings for Summer and Autumn 2002 at: http://www.ticer.nl/summer02

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