

**Institution:** University of Northumbria at Newcastle

**Unit of Assessment:** 36B - Library and Information Management

#### a. Overview

Library and Information Management (LIM) research at Northumbria is situated in the Department of Information Sciences. In 2013 the Department was recognised as an iSchool, within the international iSchool network, for the quality and depth of its funded and doctoral research, and its teaching. The iSchool's research is characterised by its range of increasingly interconnected specialisms across the Information Management-Information Systems discipline. These specialisms are: user behaviour; information and digital literacy; the transition to the digital in archives and records management; socio-technical approaches to information systems (IS) strategy, design and adoption; scholarly communication, publishing and digital consumers; and sustainability of digital systems. In the period since 2008 the UoA has:

- More than doubled the number of academic staff;
- Invested in postgraduate research, resulting in an international PGR community of 30 students and a rising completion rate (12 in the period);
- Been successful in obtaining financial support for research from RCUK and other national and international sources;
- Enhanced its international collaboration and esteem.

### b. Research strategy

1) Strategy 2008-2014: After RAE 2008, in which two current members of the iSchool were returned under Business and Management Studies (McLeod) and Allied Health Professions (Childs), a fundamental reassessment of LIM research resulted in a development strategy that aimed to grow research and its quality, and create a group of researchers who would have a global impact. Our objectives were to: (1) grow capacity and capability; (2) create an innovative, well-resourced research environment; and (3) develop more trans-disciplinary and international lines of research.

**Objective 1:** With substantial investment by the University we have more than doubled our staff research capacity and capability (from four to nine) through the strategic appointment of high calibre academics. These appointments have added depth to our research base and leadership in new research areas, enabling us to deliver our research strategy.

Objective 2: We have used broader combinations of research methods for our field, developing distinctive strengths in participative and co-operative research. Examples are: the work of Pickard and McLeod, recognised internationally for its innovative methods (see Impact Case Studies 1 and 2); Li's structural equation modelling of behaviour in virtual communities; and Wainwright's latest work with Childs on model-driven systematic literature reviews for evidence-based research in information systems. In addition to the infrastructure investment (see Section d), our research environment has included collaboration with Northumbria colleagues in Arts and Design on two successful AHRC Block Grant Partnerships, gaining AHRC Centre for Doctoral Training status in 2013, and with Mathematics, Health, Central Research and Library Services, Computer Science, Life Sciences and the Newcastle Business School on research funding applications and projects (McLeod, Pickard, Sice, Wainwright).

**Objective 3:** Our research has developed firmly along trans-disciplinary and international lines, focusing on:

User behaviour, information and digital literacy: Pickard and Walton explore user behaviour in
digital environments to develop more appropriate models for enhancing information and digital
literacy skills. Pickard's interdisciplinary research on users' trust in web resources identified a
need to address individual, personal models of information interactions of young people. It led
to her work with Ukrainian universities for the Ministry of Education on the EU Tempus
IMPRESS knowledge transfer project on information literacy and associated skills (2012-15),



which aims to provide a framework for teaching students for their national HE sector. **Walton's** work on improving digital literacy led to the development of an Assignment Survival Kit (ASK), now being designed as a mobile "app", and an EU Comenius school education research project with eight partners in Croatia, Denmark, Greece, Poland, Sweden and the UK, on improving literature learning and digital literacies across Europe (2013-15).

- Transition to the digital in archives and records management: McLeod's international erecords management (ERM) research with Childs, supported by the largest AHRC grant awarded to date in this area, has led to a reconceptualisation of the ERM challenge and the development of a strategic framework for addressing it (described in an impact case study). Some of the findings were applied in their JISC funded research data management projects (2010-12), collaborating with the Digital Curation Centre and Digital Preservation Coalition; the methodology informed a collaborative research proposal with The National Archives (TNA). Moss has added to this area. His work has a strong focus on trust, exploring the way in which the digital has impacted on record keeping, and has informed approaches to the management of information at the highest level in government. His recently-awarded ESRC project with Oxford University (2014-16) on the history of the development of professions in the 19th Century will explore whether, as the new public management rhetoric suggests, they developed a distinctive social welfare outlook inimical to economic growth. It is planned that his current work on sensitivity review with TNA will lead to a bid to ESRC for a follow-on project.
- Socio-technical approaches to IS strategy, design and adoption: Wainwright's body of research on, and development of, socio-technical and "soft modelling" approaches to IS design and adoption, in collaboration with the health sector, is important in contributing to an understanding of how some approaches to public sector management can lead to technological determinism resulting in massive IT failure and overspend. It is important in the construction sector for collaborative working (with Frank Haslam Milan Ltd) as is the design of intelligent systems for claims reconciliation in car salvage operations (National Salvage Group, Philips). Li's research focuses on a particular aspect of IS adoption, virtual epistemic communities, and uses structural equation modelling to assess key factors for technology acceptance. Sice uses complexity theory and design to facilitate positive transformation in the context of the profound changes that systems bring to relationships between individuals and organisations. McLeod's collaborative research with Childs and private sector consultants into UK HE sector adoption of SharePoint was the first study of its kind (2009) and led to McLeod's invitation to externally quality assure NERC's SharePoint implementation (2010-13).

In addition to expanding current research areas, recent appointments have also added new ones which complement existing strengths and will enable significant growth:

- Scholarly communication, publishing and digital consumers: Nicholas's work on digital
  consumer behaviour, particularly his critical investigation of the concept of the "Google
  generation", signals a new strategic area for growth. His deep log, digital footprint analysis of
  usage data is an example of an innovative approach to research methodology, and
  complements existing approaches. His extensive research in scholarly communications with
  publishers and universities (Tennessee, Malaya) provides a crucial new dimension to our
  portfolio.
- Sustainability of digital systems: bridging information management and information systems,
   Chowdhury's work on the carbon footprint of the digital economy chimes with RCUK's digital
   economy and sustainable society initiative. He has established the need for continued research
   on the sustainability of digital information services and developed techniques for their
   assessment and has formed a multi-institutional team to submit joint grant applications on
   different aspects of systems sustainability.

This staff profile signals a significant development throughout the period 2008-2013 in our research. An example of a particular focus on collaborative research across specialisms is found in the work of **Nicholas**, **McLeod** and **Moss** who have prepared and submitted a proposal for research support in their AHRC Big Data bid in the heritage sector with Europeana, provider of the largest open access portal to objects in over 2,000 European cultural institutions (2013). This brings together their complementary digital usage, library, archives, museums and records expertise to develop a detailed understanding of user behaviour in the cultural heritage world



through the advanced analysis of usage data, largely neglected by public institutions. It is a strategic area for expansion.

We have supported inter- and trans-disciplinary collaborative research with other universities, and private and public sector organisations, e.g. hospital foundation trusts, construction sector companies, Northumberland Estates, TNA and charities, facilitated through knowledge exchange, knowledge partnerships and doctoral studies. Knowledge exchange with international visitors has informed the theoretical and professional focus of our research. Visitors have included Adrian Cunningham (then at National Archives of Australia), John McDonald (formerly Libraries and Archives Canada), Bridget Sisk (United Nations, New York), Dr Daniel Russell (Google Inc.), and academics from the universities of Canterbury (New Zealand), Iceland and Monash (Australia).

2) Strategy 2014-2019: The challenge for the information sciences is the digital paradigm, which is fundamentally changing the way in which we harvest and use information, breaking down boundaries, radically reconfiguring the relationships between creators, providers and consumers, transforming delivery of learning, services and processes, and fuelling societal expectations but also fears of a technology-enabled surveillance society. Massive advances in digital technology, "promising" savings by improving information flows, require new business models for organisations to be sustainable. This context informs our strategy for the next period, which focuses on leading on research that: improves our understanding of information behaviour and processes in the digital environment; increases efficiency and effectiveness of processes and systems; generates key performance indicators for the virtual environment; and uses the results to develop models and methodologies for the digital "knowledge economy".

Realising this strategy requires world-class research, conducted by creative researchers with a wide range of knowledge, skills and backgrounds, in new collaborations and associations. Building on our capabilities we will focus on:

- Digital consumers, behaviour and literacy: Understanding consumers and outcomes in virtual environments by employing digital footprint analysis (CIBER@Northumbria). Understanding their behaviour and literacy skills through qualitative methods and structural equation modelling.
- Scholarly communication and publishing: Understanding the complex inter-play of authors, publishers, libraries and consumers. Studying open access, social media, digital transition, and trust and authority issues.
- **Digital libraries, archives and records:** Understanding governance, assurance and risk, behaviour, processes and systems, particularly preservation, access and retrieval.
- **Digital socio-technical design:** Improving systems design, adoption, acceptance, security and sustainability, and using complexity theory to facilitate positive transformation for both individuals and organisations.

CIBER@Northumbria is an example of the type of team we have built and will continue to build: comprising people from various cognate subject fields, most notably computer science and statistics; using new and innovative methods designed for the digital space; conducting big research, in terms of countries involved and volumes of data; and extending the reach of our research endeavours. Focusing on developing bigger projects, other teams of iSchool staff and internal/external collaborators will enable us to conduct research that would otherwise not be possible, and facilitate knowledge transfer regionally, nationally and internationally. New links in the USA, Australasia, the Far East and Europe (**Chowdhury**, **Moss, Nicholas, Li, Walton**) will be exploited as well as established ones. We will continue to target previously successful external funding streams, prepare and submit funding applications to others, such as Wellcome, the AP Sloan and Mellon Foundations in the USA, National Institute for Health Research and the Heritage Lottery Fund, and continue to leverage PGR studentships as part of Northumbria's new AHRC Centre for Doctoral Training.

### c. People

c1. Staffing strategy and staff development

Staffing strategy and development: Our strategy (2008-2014) has been to build both capacity



and capability, and to develop and reward a high-quality research culture. We have built capacity through strategic appointments, attracting senior people from other top-ranking and international institutions to Professorial positions (**Chowdhury**, **Moss**, **Nicholas**), an established researcher (**Li**), and an ECR with significant practitioner experience (**Walton**). Together they have enhanced international collaboration and brought links to India, Australia, China, Korea, USA and Europe. Investment in new staff will continue to be strategic; selection will be based on high-quality research track records and/or high potential ECRs and subject expertise aligned with our research strategy. Capability has been built through staff development (below). To develop and support our research we: provide new staff with £2,000 in the first year specifically to support their research; mentor staff to apply for promotion (e.g. **Wainwright** to Professor in 2010); and use the six-month sabbatical scheme to support staff (e.g. **Pickard's** recent sabbatical resulting in a peer-reviewed publication co-authored with a practitioner, evidence of impact of previous research and an invitation to write an output for practitioners). Funding is distributed to support PGR activity aligned to quality research and to provide overhead sharing incentives to support research; for example by buying in RAs, release from teaching, funding visits and resources.

To develop staff we actively implement the Vitae Concordat to Support the Career Development of Researchers via the University's European Commission HR Excellence in Research awardwinning plan, centred on the appraisal system and Personal Research and Innovation Plans (PRIP). These are annual plans prepared by all staff indicating recent and proposed activity in the areas of publication, research funding applications, PGR supervision, and related research activities. They are used to agree targets and identify short and longer-term development needs appropriate to the research role and career stage. Needs are supported in different ways. The Professional Doctorate programme (D. Info. Sci.) led by **Pickard**, one of the few such programmes in the UK, develops existing staff to launch their research career, and the University's research leadership and management programme supports senior researchers (e.g. Wainwright, McLeod). The University's extensive Researcher Development Programme provides generic research training for all staff on topics such as funding opportunities, writing proposals, research ethics, data analysis tools, impact, open access publishing. It is supplemented by external subject specific training e.g. SAS business intelligence and analytics. The iSchool's research seminar programme. an integral part of our research culture, supports staff development and knowledge exchange in our LIM research specialisms. In future this will be enhanced through a programme of research master classes, e.g. digital footprint analysis, digital cultural analysis, health informatics. Staff must complete PGR supervisor training before they can be a member of a supervisory team and then attend regular update training delivered by the University's Graduate School; likewise training for chairing PGR examinations must be completed before taking on this role (McLeod, Pickard, Wainwright). Funding to attend or present research at conferences comes from the iSchool's budget allocation.

**Supporting newly appointed ECRs:** We support and implement University and Faculty policies which comprise: lighter teaching loads in Year 1 (typically 25%); mentoring by a senior member of research staff to develop their electronic self-reflective PRIP; becoming co-researchers on projects and/or securing funding to lead their own projects (this includes support in writing bids, peer review of outputs e.g. **McLeod** for **Walton**); completion of a mandatory 20-credit *Research and Innovation* module covering research ethics, funding and bidding, project management, disseminating and publishing research. We use the iSchool's research seminar programme and the University's annual two-day research conference to integrate all staff at the start of their research career into our research culture and to share their work with peers and PGR students.

**Equality and diversity:** The University is committed to providing an environment in which diversity is valued and encouraged, where there is equal access to opportunities and services and in which prospective and existing staff and students are treated fairly, with equity, dignity and mutual respect. This is reflected in initiatives such as inclusion of contract research staff in the Equal Pay Audit, promotion of work-life balance opportunities, and support for the *Vitae Concordat*. The iSchool strongly supports this as evidenced by our staff and student base, which is diverse in terms of age, experience, ethnicity, employment/study pattern and location (e.g. remote/campus).

Facilitating exchanges with other sectors: Examples are: the use of competitive funding to support specific knowledge exchange activities e.g. HEIF funding for research impact activities



(**Pickard, Wainwright**) and knowledge transfer partnership development (**McLeod, Wainwright** with local GPs); engagement of leading national/international practitioners on research projects e.g. Cunningham (Australia) and McDonald (Canada) on the AC<sup>+</sup>erm project, and the Digital Preservation Coalition and Digital Curation Centre on the DATUM projects; engagement with practitioner networks through hosted events e.g. with CILIP (Chartered Institute of Information Professionals) North East (2010-12); the appointment of Visiting Professors and Scholars from outside academia to bring additional practitioner expertise and perspectives e.g. Mr T Durcan OBE (Newcastle City Libraries), Mr L Asprey (Oakton Pty, Sydney, Australia) who delivered a commercial two-day document management workshop, and Ms B Sisk (United Nations, New York) on sabbatical (2013).

#### c2. Research students

Research culture and recruitment: Our PGR students are a vital part of the iSchool's research culture, capacity and capability. The number of PGR students has tripled since 2008, with 30 enrolled in 2012. Our first AHRC BGP studentship attracted eight high-quality applications (exceeding the national average of six applications per studentship in the previous open route scheme). This is particularly pleasing in a discipline which has a relatively modest doctoral base. The successful candidate started in September 2012. There is a 40/60 full/part-time PGR split, 36% are from overseas and 40% are self-funded. Students are multi-cultural and multi-lingual, from the UK, mainland Europe, the Middle East, India, Thailand and China, some of whom are work-based practitioners. Full-time PGR students have their own desk and part-time students hot-desk in a PhD suite which facilitates informal knowledge-sharing and peer support. There were 12 completions in the period, two or three each year with a 100% pass rate, including the first AHRC funded student attached to a research grant (2011). They published an average 4.4 outputs each (articles, conference papers, book). We aim to increase the level of enrolments and completion rate of our Doctoral programme, using our recent professorial appointments and their networks to attract students.

Monitoring, support and development: From induction onwards our PGR students are integrated into the research environment. They are required to attend the iSchool seminar programme, benefiting from working alongside experienced academics undertaking a D. Info Sci., and are part of the Faculty and wider University research communities. The Faculty's PGR Director works closely with the University Graduate School to implement and monitor formal progression milestones, including a Project Approval within three months of enrolment and annual reviews. Students meet regularly with their supervisory team and present their work at least four times during their study in different iSchool/Faculty/University seminars and conferences. These provide opportunities for peer review and facilitating exchange with audiences drawn from the University and beyond. University and Faculty procedures, which govern our PGR processes, are compliant with the QAA Quality Code for HE for Research Degrees.

Support for skills development and career-planning preparation is driven by the PGR Development Portfolio which each student completes at the start of their study. This allows them to monitor and adjust their own research and personal training needs in discussion with their supervisory team. Formal confirmation of completion of skills training is required at each annual progression point. Support includes access to a structured training programme, organised by the Graduate School, covering the knowledge and skills required for good research practice in all aspects of the PhD process plus post-doctoral opportunities. Funding is available for students to attend at least one discipline-specific PGR training/education opportunity and/or national/international conference per year; e.g. UKAIS (UK Academy for Information Systems) and i³ (Information: Interactions and Impact) doctoral programmes associated with the annual/bi-annual conferences; and relevant subject specific conferences. Students are also supported in applying for travel grants to, for example, the British Academy and British Computer Society (BCS). Towards the end of their study they are supported, as appropriate, to apply for post-doctoral fellowships/research posts. Lomas' recent successful appointment as researcher for the Digital Research & Development Fund for the Arts (AHRC with NESTA and Arts Council England, two years 2014-15) is an example.

#### d. Income, infrastructure and facilities

Total income attracted to support research in the period was £877,000, of which £465,000 is



reported in REF4. Two-thirds (67%) came from competitive bids to UK Research Councils, £310,000 of a £419,000 AHRC e-records management grant (**McLeod**, 2007-10). Almost one-third (£146,000) came from knowledge transfer/collaborative innovation partnership (KTP/CIP) funding (**Wainwright** with Frank Haslam Milan Ltd; Philips with National Salvage Group). £9,000 came from the private sector (**Sice** with Corpus Media). Additional income from other sources included JISC (£138,535 - **McLeod** on research data management and **Pickard** on trust in web resources) and Eduserv (£21,785 - **McLeod** and Childs on SharePoint adoption in the UK HE sector). Research-based knowledge exchange generated income, e.g. €213,000 of a €833,000 EU Tempus grant (IMPRESS project, **Pickard**, 2012-15), supports our research as does income (£74,000) from consultancy and enterprise activities in the public and private sectors, e.g. with Gateshead and Newcastle City Councils, Newcastle City Library, a local health trust, Lloyds Banking Group and TNT.

Income is projected to grow significantly with £419,000 (90% of the REF4 income for the previous period) already secured: £365,000 from a £750,000 ESRC project with Oxford University (**Moss**) and £54,000 for AHRC post-doctoral research (Lomas). A further €26,000 from a €229,000 EU Comenius project (**Walton**) is expected. Future plans are to increase the proportion of large interdisciplinary bids, for example on linking user behaviour with archives/records management, to a wider range of funders (see Section b).

Our research interests have not relied on specialist physical infrastructure or facilities beyond appropriately specified desktops/laptops provided to staff and PGR students. However, almost £159,000 has been invested in infrastructure and facilities to support our expanding research base. This includes specialist industrial hardware technologies and software applications, e.g. Opentext, SharePoint, SAS Analytics, Oracle; a range of portable devices and eye-tracking hardware to support research on human-computer interaction and user experiences with mobiles and smartphones in natural/field environments; and refurbishments to create a PGR suite. We benefit from Faculty-wide investment in research/teaching space; local dedicated IT support and the University's £114,000 investment in Library Research Zones.

Investment plans for future research-orientated "space" include *iLabs* (smart research/class rooms) with secure dedicated servers, high-specification desktop machines and a virtual whiteboard, hardware and software for web-usability testing and further mobile/high specification desktop devices for staff. These will enable research using big data sets, sensitive data and visualisation methods to be done both in situ and virtually.

### e. Collaboration and contribution to the discipline or research base

Significant exemplars of the range of staff collaborations and contributions in the period are:

#### Editorial positions

**McLeod** is Editor of *Records Management Journal* (1997-), **Nicholas** was Editor of *Aslib Proceedings* (1996-2011), **Pickard** was Joint Editor (2010-11) *Library and Information Research* and is an Editorial Board member (2009-).

Editorial Board memberships since 2002 include: Information and Management, Int. J. of Information Management and J. of the Association for Information Systems (Wainwright); J. of Documentation (Chowdhury, McLeod); J. of Information Science (Chowdhury); Library Trends and LIBER Quarterly (Nicholas); Aslib Proceedings and J. of the Society of Archivists (McLeod); Performance Measurement and Metrics (Pickard). Series Editors: iResearch Series, Facet (Chowdhury); Social Media Series, Chandos (Walton).

# Research Council, national/international committee and professional association leadership

Members of: ESRC Peer Review College (**Chowdhury** 2009-12; **Walton** 2012-); AHRC Peer Review College (**McLeod** 2009-12; **Walton** 2013); AHRC Peer Review Panel for Libraries, Museums and Archives (**McLeod** 2006-8; **Nicholas** 2007-10); AHRC Collaborative Doctoral Awards Panel (**McLeod** 2009-10). **Nicholas** was a Member of the British Library Research Board (2008-12), COUNTER international Board, 2012. **Moss** is a Non-Executive Director of National Records of Scotland and National Trust for Scotland, a member of the Lord Chancellor's Forum on National Records and Archives and the Forum for Historical Manuscripts and Archival Research.



**Wainwright** was President of UKAIS (UK Academy for Information Systems) 2008-10, Acting President 2011-12. **McLeod** is a member of the BSI and ISO Committees on records management (1998- and 2001-) and invited member of the international MoReq2010 Expert Review Group (2010). **Walton** is a member of Research Information and Digital Literacies Coalition (RiDLs) and invited member of the RIN Expert Panel on Information Literacy.

## International and national conference organisation

Chowdhury was Chair of International Committee ICAL (Int. Conference on Academic Libraries) (2009, 2013) and ICADL2010 (Int. Conference on Asia-Pacific Digital Libraries); Co-Chair of ICADL2012 and Vice Chair ICADL2011; Executive Committee member of CiSAP (Consortium of iSchools for Asia and the Pacific) (2011-). Li was invited mini-track chair of "Participation and Behaviours in Virtual Worlds" at AMCIS (Americas Conference on Information Systems) 2009, 2010; Programme Committee member of Pacific Asia Conference on Information Systems (PACIS) 2010. Walton was a member of i3 (2013-) Int. Programme Committee. Sice was on the organising committee of European Conference on e-learning (2008-2010). Wainwright was Programme Chair UKAIS Int. Conference (2013) and Co-Chair (2008-10), Organising Committee member, UKAIS Int. Conference (2011) and Co-Chair (2012-14). Staff have also held roles at the national level. Staff are members of iSchools (2011-13); McLeod and Wainwright iConference 2014.

### International invited lectures and keynote presentations

Invited keynotes include: **Moss** the Mellon Foundation Online Humanities Conference, University of Virginia, 2010; **Nicholas** ISKO conference, Warsaw 2013; Scottish Parliament, 2013; National Customer Media Congres, Haarlem 2012; LIBER Conference Estonia 2012; Retailing 2020, Schelle 2012; **Chowdhury** iCOLIS, Kuala Lumpur 2012; 7th Int. Book Conference, Edinburgh 2009; **McLeod** Records Management Association Australia Conference, Sydney 2008; DLM Forum, Brussels 2011. **Walton** Invited talk Special Libraries Association 2013 Education Division.

Invited lectures include: **Chowdhury** ICAL2 (2<sup>nd</sup> International Conference on Academic Libraries), New Delhi, 2013; Int. Symposium in Information Research, University of Tsukuba, Japan, 2012; Dept. of Information Science Research Workshop, University of Malaya, 2012; Int. Conference on Digital Library Management (ICDLM), Kolkata, 2011. **McLeod** one-day seminar on records management for the Icelandic Records Management Association 2010; **Pickard** Visiting Scholar at University of Parma, Italy, 2010 and University of Florence, Italy, 2012.

#### International collaborations

**Pickard** with Ukrainian universities (EU Tempus Project, 2012-15); **Walton** with eight EU partners (Comenius Multilateral Project, 2013-15); **Nicholas** with Universities of Warsaw and Tennessee on trust in the digital age and Europeana on usage analysis.

#### **Doctoral examinations**

Staff have extensive experience in examining PhDs: eight overseas (**Chowdhury** at Nanyang Technological University, Singapore and the Universities of Malaya, Calcutta and Cape Town; **McLeod** at the Universities of South Australia and British Columbia) and 29 in 19 UK HEIs during the period (**Chowdhury**, **McLeod**, **Moss**, **Nicholas**, **Pickard**, **Sice** and **Wainwright**).

### Scholarly awards, Fellowships, visiting titles and invitations

**McLeod** Emerald Literati Award for Excellence for Leading Editor 2011 and one of the first and only academic Fellows of IRMS. **Walton** SLA Europe Information Professional Award 2010, Emerald Literati Highly Commended Paper 2012. **Moss** Visiting Professor University of Melbourne (2013-14); **Nicholas** Adjunct Professor University of Tennessee; **Chowdhury** is a Fellow of CILIP and Visiting Fellow, University of Glasgow (2011-12). **McLeod's** invitations from NERC to externally quality assure their SharePoint implementation (2010-13); Mid Sweden University to be an Evaluator for their Assessment of Research and Coproduction (ARC13); and Professor Duranti, University of British Columbia Canada to write the records management entry in a new *Encyclopedia of Archival Concepts, Principles and Practices* (2013) with Lomas.