


Bid Cover Sheet JISC Grant Funding 06/11

Cover Sheet for Bids <i>(All sections must be completed)</i>			
Name of Strand: Strand A:	<input type="checkbox"/>	Strand B:	<input type="checkbox"/>
		Strand C:	<input checked="" type="checkbox"/>
Name of Lead Institution: Centre for e-Research, King's College London			
Name of Proposed Project: Linking Parliamentary Records through Metadata (LIPARM)			
Name(s) of Project Partners(s) (except commercial sector – see below) National Library of Wales Institute of Historical Research, University of London Centre for Data Digitisation and Analysis, Queen's University Belfast History of Parliament Trust Northern Ireland Assembly			
This project involves one or more commercial sector partners NO (delete as appropriate)		Name(s) of any commercial partner company (ies)	
Full Contact Details for Primary Contact: Name: Mr Richard Gartner Position: Information and Knowledge Specialist Email: richard.gartner@kcl.ac.uk Tel: 020 7848 1923 Fax: 020 7848 1989 Address: 26/29 Drury Lane, London WC2B 5RH			
Length of Project:	13 months		
Project Start Date:	1 November 2011	Project End Date:	30 November 2013
Total Funding Requested from JISC: £138,087.85			
Total Institutional Contributions: £45,278.74			
Outline Project Description This project will allow for the first time the federated searching and browsing of UK and Ireland Parliamentary papers by defining and implementing a unified metadata strategy for historical and contemporary parliamentary digitisation projects. The project will define a generic XML schema for parliamentary metadata, define controlled vocabularies for key components of this metadata, and produce a platform for a union catalogue of these materials based on the records created. Key collections will be enhanced to allow their content to be accessed via the catalogue.			
I have looked at the example FOI form at Appendix A and included an FOI form in this bid		YES (delete as appropriate)	
I have read the Funding Call and associated Terms and Conditions of Grant at Appendix B		YES (delete as appropriate)	
For FE institutions only: Please tick this box if you are an FE institution in England, please tick this box to confirm that you meet the eligibility requirement of teaching HE to more than 400 FTE		<input type="checkbox"/>	

1. Appropriateness and Fit to Programme Objectives and Overall Value to the JISC Community

1.1. Objectives of project

1.1.1. This project will fill a major gap that currently exists in the provision of online access to the UK's Parliamentary record, a coherent metadata scheme to allow the federated searching and browsing of the extensive but disparate digital collections of this material. It will aim to define a standardised XML metadata scheme which will be compatible with existing systems, define a set of controlled vocabularies to enable the effective integration of these resources, and produce a prototype union catalogue based on this scheme which will form the basis of an integrated access to this record for the first time.

1.1.2. The need for such an approach has become more pronounced as the number of online parliamentary record projects has grown. These include projects which have converted the historical record (such as BOPCRIS or Cobbett's Parliamentary Papers at the Oxford Digital Library) and contemporary projects, such as Hansard, which report current business in parliament. The necessity for establishing a methodology for joining these has now become compelling, as was recently acknowledged in a meeting of experts in this area at the House of Commons (Gartner & Hughes, 2011).

1.1.3. The benefits accruing from this project are substantial and most notably include:-

- allowing for the first time federated access to the Parliamentary record as a whole
- allowing the current and historical parliamentary records to be examined as a unit
- providing a coherent methodology and set of standards for ongoing projects to ensure their collections enjoy greater visibility and long-term viability
- producing a coherent set of supporting materials (such as controlled vocabularies) which will enhance the study of parliamentary materials in their own right
- providing a schema designed for adoption in other jurisdictions for Parliamentary content, particularly for states following the Westminster system.

1.1.4. The project directly addresses the requirements of paras. 70 and 71 of the eContent call for projects which stress the importance of aggregating digital content and building services based on existing content to benefit Higher Education. It also addresses paragraph 77 by incorporating the following innovative methodologies:-

- the creation of a synthetic metadata schema which has not been attempted before in this area
- the creation of controlled vocabularies using the new standard MADS, and the publication for the first time of these in a semantic-web compatible form
- the creation of a methodology for an XML-based union catalogue with cross-search capabilities, for this material, the first time this has been attempted.

The methodology will be compatible with all types of content type (not only digitised texts) and so also addresses paragraph 78.

1.2. Background

1.2.1. The Parliamentary record is made up of records of debates, such as Hansard; records of decisions, for example the formal Journals of the House of Commons and House of Lords; and material produced as the basis of those debates and decisions (e.g. the reports of committees, or drafts of bills). There is a vast amount of this material in print, and an increasing amount of it has been digitised. Major historical online collections include **Hansard 1803–2005** (<http://hansard.millbanksystems.com/>), **House of Commons Parliamentary Papers** (published by Proquest, incorporating eighteenth century journals, and bills and reports from the eighteenth, nineteenth and twentieth centuries); **British History Online** (sixteenth, seventeenth and eighteenth century journals, and pre-1700 informal records of debates) and the Stormont Papers project

(<http://stormontpapers.ahds.ac.uk/stormontpapers/index.html>), which includes the Hansards and other materials of the Northern Ireland Parliament from 1922 onwards. Digitisation is continuing, including the Journals of the nineteenth and twentieth century House of Commons currently under way by the Journal Office of the House of Commons. All of these materials are still being produced in all four UK parliaments and assemblies. In addition to this material, there is also associated material which assists in its interpretation and manipulation – for example the biographies of Members of Parliament produced by the History of Parliament Trust, which makes it possible to identify individual speakers in the records of debates and decisions.

1.2.2. Federated searching and browsing of these collections, however, is at present impossible owing to their disparate approaches to metadata and the variety and complexity of the content. This has been recognised as unsatisfactory by key stakeholders in this field for a long period, and various attempts have been made to devise strategies for rectifying it. In particular, a series of meetings of Parliamentary papers projects was convened by Paul Seaward of the History of Parliament Trust in the mid-2000s to compare approaches and establish some initial ideas for integrating the collections. However, no concrete proposals for implementing a strategy of this kind came of these.

1.2.3. More recent work has been undertaken on Parliamentary metadata at the Centre for e-Research, King's College London, in conjunction with its Stormont Papers projects. This resulted in a meeting of major stakeholders, funded by JISC, at the House of Commons on June 8th 2011 at which a strategy for integrating Parliamentary metadata was proposed by Richard Gartner and agreed as a viable approach for achieving a closer integration of collections: the report of this meeting is available on the JISC website at <http://digitisation.jiscinvolve.org/wp/2011/07/04/report-on-parliamentary-metadata/>.

1.2.4. This proposal is based closely on the work that came out of this meeting, and so has already received the support of the major practitioners in the area of Parliamentary collection, and of Parliamentary history in general.

1.3. Overview of proposed work

1.3.1. There will be four strands to the work undertaken in this project: (1) the definition of the parliamentary metadata schema itself and of the format for the controlled vocabularies, (2) the compilation of the controlled vocabularies themselves, (3) the conversion of metadata from existing projects to a format compatible with the schema, and (4) the construction of a union catalogue from cross-searching and browsing the collections.

1.3.2. The components of the schema will be defined in a series of meetings of experts in Parliamentary papers and the schema itself designed by Richard Gartner based on the findings of these meetings. It will take the form of an XML schema with a flexible internal structure designed to allow sophisticated linkages between components using XSL IDREFs. Each component will also include a URI attribute which will be used to link to the controlled vocabularies.

1.3.3. The controlled vocabularies will be compiled by the Institute for Historical Research in collaboration with experts in Parliamentary papers. Vocabularies will be compiled for such components as people, legislation (bill/acts etc.), items of business, chronologies (parliaments/sessions/sittings) etc. Each item in these will be assigned a unique URI by which they can be referenced from within the parliamentary metadata schema or any other source (for instance, Parliamentary proceedings encoded in TEI). These will be published in machine-readable form, probably using MADS, and as an

OWL ontology: in addition they will be made accessible via a web service.

1.3.4. An existing project, the Stormont Parliamentary Papers (both houses), will then be converted to compatibility with the schema. In addition, we shall create metadata records based on the current Northern Ireland Assembly Hansard to test its feasibility with contemporary records with on-going workflows. Records will be created in the metadata schema from these and the original data adapted to include pointers to the schema.

1.3.5. A prototype XML-based union catalogue will be constructed at the National Library of Wales which will allow for the ingest, searching, browsing and display of records in the parliamentary metadata schema. The catalogue will allow linking back to the original data and so would form a gateway to these collections.

1.4. Overall value to JISC community

1.4.1. The Parliamentary record is a key primary source for diverse sections of the higher education community, including those working in history, social sciences, law, geography and the sciences. Bringing this content together using these methodologies would enhance future research and resolve a major problem of disaggregation which has been noted repeatedly by key scholars and other stakeholders in this area. The methodologies developed would also benefit future projects which aim to cluster diverse collections of resources.

1.4.2. The lead institution and project partners would benefit from this project in multiple ways. King's College will benefit from the intellectual lead it will take in this high impact project, and also from the enhanced features of the Stormont Historical Hansard website which the project will finance. Both King's and Northern Ireland Hansard will benefit from increased visibility of their collections, and the History of Parliament Trust will see its long-term aim to establish a metadata framework for clustering collections come to fruition. The IHR will enhance its skills base in metadata creation and maintenance. QUB will gain further experience in advance data conversion and increase their skills base in these areas.

1.4.3. The project budget has been carefully calculated to ensure value for money. Overheads for most staff at QUB and for Hughes at NLW are covered as institutional contributions: similarly Seward's time, and that of any staff at the Northern Ireland Assembly are institutional contributions. All hardware infrastructure will be provided by the project partners.

2. Quality of Proposal and Robustness of Workplan

2.1. Introduction

2.1.1. This project will make heavy use of the expertise of its major project partners: they include experts in metadata, in data conversion, in historical research and in Parliamentary history. The knowledge base needed for this project is therefore already in place and each component of the project plan will be implemented through the use of techniques and methodologies in which each partner is already highly experienced.

2.2. Workpackage breakdown (the primary responsibility for each workpackage is indicated in brackets)

2.2.1. Workpackage 1: Project management (Gartner)

- Project management will continue throughout the project as outlined in section 2.5 below.

2.2.2. Workpackage 2: Construct Parliamentary metadata schema (Gartner, in consultation with Seaward, Hughes, Eil and other practitioners)

- A detailed analysis will be undertaken of the metadata requirements of stakeholders and a set of required components for the scheme drawn up.
- These components will then be collated into an integrated, structured XML schema, which will be designed specifically to allow extensive interlinkages between metadata components and linkages to external data sources (such as the controlled vocabularies constructed by this project).
- The schema will be tested against a set of existing data (Stormont House of Commons and Senata papers) in a process which will determine mechanisms for integrating such data with the schema
- The schema will be assessed by a key set of stakeholders before proceeding further.

2.2.3. Workpackage 3: Compile controlled vocabularies (Winters)

- With advice from Gartner on formats and standards, and assistance from Seaward and other Parliamentary experts, the IHR will compile machine-readable vocabularies to cover the core concepts detailed in 1.3.3 above. Each component of these will be assigned a unique URI for unambiguous referencing, and each vocabulary published as XML, an OWL ontology and via a interface.

2.2.4. Workpackage 4: Construct XML-based union catalogue prototype (Hughes)

- The development team at the National Library of Wales, who have extensive experience in XML development, will design, test and implement a prototype union catalogue for metadata encoded in the schema. This system will allow the ingest and validation of records, searching, browsing and linking back to the source materials which they document. A corpus of records created under workpackage 5 will then be uploaded and the functionality of the system assessed by a number of stakeholders in a focus group.

2.2.5. Workpackage 5: Convert existing Parliamentary records data to the schema (EII)

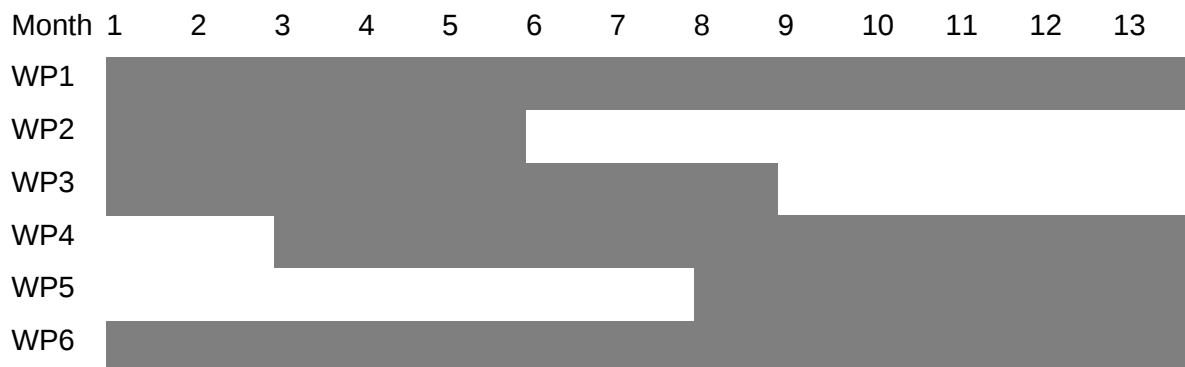
- The usability of the parliamentary metadata schema will then be tested by converting a substantial collection to compatibility with it. The team at QUB will test this by using both historical and contemporary data as testbeds. For the former they will use the encoded XML Stormont Parliamentary Papers (from both houses) to generate PML records which will be ingested into the union catalogue. The Stormont data will be enhanced to include pointers to PML records allowing access to any relevant component (individual bills, persons etc) from the union catalogue. The current delivery system for the Stormont Papers will be enhanced to incorporate the new browsing and searching features made possible by the converted data.
- To test the schema against contemporary data, the QUB team will use the Northern Ireland Official Reports (Hansard); a smaller sample of data will be used to test the feasibility of generating PML records and incorporating them into the union catalogue. The findings of the project will scope out the steps necessary to modify the Hansard delivery system to incorporate the encodings for this and similar working environments.
- A report will be produced on the procedures needed for these conversions and any difficulties experienced. The implications of this exercise for other parliamentary collections, particularly for the practicalities of incorporating PML into their metadata environment, will be fully documented.

2.2.6. Workpackage 6: Dissemination (All)

- The outputs of this project will be widely disseminated as they will have a substantial impact on the practices of parliamentary curation. The PML schema will be published on the project website and partner websites such as the Stormont Papers site, and promoted at conferences and in the professional and academic literature. The controlled vocabularies will be published electronically and promoted in the archival

community. The union catalogue will be publicised by at conferences and workshops and promoted in relevant communities.

2.3. Outline project timetable



2.4. Summary of deliverables

- The Parliamentary metadata schema, published in XML with documentation
- Controlled vocabularies, published in XML and OWL formats, and as a web service, for:-
 - persons
 - roles and offices
 - chronologies (parliaments/sessions/sittings)
 - proceedings, legislative and non-legislative
 - constituencies
- A prototype union catalogue, including a public interface, ingest and editing facilities
- A converted collection of the Stormont Parliamentary papers, linked to the union catalogue
- At least two conference papers
- At least two articles in the literature
- A report from the focus group on the union catalogue interface
- A report on the data conversion process and its implications
- An end of project workshop
- The final project report

2.5. Project management arrangements

2.5.1. Gartner will have overall project management responsibilities. A project management group, consisting of Gartner, Hughes, Ell, Winters and Seaward, will meet by telephone conference at least once a month to discuss progress: this will be in addition to an initial face-to-face planning meeting.

2.5.2. Each workpackage manager will have responsibility for the progress of their respective work area and for their deliverables. They will report to the project manager on a regular basis and to the meetings of the project management group.

2.6. Risk analysis

Risk	Prob (1-5)	Sev-erity (1-5)	Score (P×S)	Action to Prevent/Manage Risk
Difficulties in retaining staff.	1	4	4	All key staff are on permanent or long-term projects which extend well beyond the project term. Ensure others with necessary skills are available within project team.
Metadata	2	4	8	Ensure scheme is drawn up in close

scheme proves incompatible with existing data				collaboration with data holders. Test against data as scheme is drawn up. Revise as necessary after testing against substantial body of data.
Failure to meet project milestones.	1	4	4	Produce project plan with clear objectives. Monitor progress and re-plan when necessary.
Failure to produce controlled vocabularies	2	4	8	Map out sources carefully before project (already done). Plan architecture carefully beforehand (partially done already). Use experts in constructing vocabularies for work.
Data conversion proves difficult/impossible.	2	4	8	Design schemas with maximum flexibility, work with data holders in their design. Build on existing data conversion work and methodologies.
Poor take-up of schema	2	4	8	Disseminate to key stakeholders (many of whom are project partners). Provide full documentation on schemas and methodologies. Aim to convert major collections first to build critical mass.

2.7. IPR Position

2.7.1. IPR in all documents produced by the project will be retained by the authors and host institutions but made freely available on a non-exclusive licence. The Parliamentary metadata schema and controlled vocabularies will be made available under GPL version 3, allowing them to be freely copied, distributed and modified. The union catalogue prototype will be made available as open source software under GPL. IPR in the union catalogue XML records will be retained by the host institutions, but also made freely available on a non-exclusive basis. The enhanced Stormont Parliamentary papers XML files, financed through earlier JISC projects, will be made available on the same non-exclusive licence as before.

2.8. Sustainability issues

2.8.1. Some technical infrastructure will be required to sustain the output of this project in the long-term. Access to the union catalogue will be provided by NLW for at least three years after the project end. The IHR will continue to provide access to the controlled vocabularies for at least this period, although adding to them will require additional maintenance funding. King's College London will continue to provide access to the schema for at least this time. The enhanced Stormont Parliamentary papers XML files will be made accessible in the long term by King's College London, as is presently the case.

2.8.2. It is intended that the resources created here will become key infrastructural components of parliamentary record curation, and that their continued maintenance and promotion may be taken up in the long-term by an appropriate body. As part of the project, this will be discussed with potential hosts.

3. Engagement with the Community

3.1. Stakeholder analysis

Stakeholder	Interest / stake	Importance
Parliamentary historians	Provides an integration of resources, the lack of which has until now been perceived as impeding research. The ability to interrogate the Parliamentary record more	Very high

	analytically than is currently possible	
Hansard and other publishers of Parliamentary records	Streamlining metadata creation, so creating time and money savings. Easier access to their products	Very high
HE community	Easier and more efficient access to the Parliamentary record for teaching and research.	Very high
Political community	Easier access to current parliamentary papers; more logical searching/browsing of parliamentary record.	High
Specialised services eg. 'They Work for You'	Better access to structured metadata and semantic ontologies, allowing better services to be constructed.	Medium
General public	Easier access to parliamentary record, better information on work of MPs.	Medium

3.2. Engagement with stakeholders and practitioners

3.2.1. Workpackages 1 and 2 in particular will involve close contact between the project staff and parliamentary historians: the schema and controlled vocabularies will be drawn up after extensive discussions with members of this community.

3.2.2. Advice and comments from the academic community will be sought throughout the project through the project dissemination strategy. The IHR and the History of Parliament Trust in particular will seek the advice of historians through their extensive network of contacts.

3.2.3. Workpackage 4 will involve close collaboration with XML developers at NLW; workpackage 5 will involve close liaison between QUB and the technical staff at King's College London and any other data providers involved.

3.2.4. We aim to involve the political and wider communities through such mechanisms as the project blog. We shall aim to present the project at Parliament to MPs and to publicise it in the general press.

3.3. Dissemination

3.3.1. A training workshop will be held at the end of the project at which the results and findings will be made known to the HE, publishing and political communities

3.3.2. All reports compiled as project outputs will be published on the project website. The will be made available indefinitely after the project finishes.

3.3.3. The PML schema, the controlled vocabularies and their associated documentation will be made available through the project website and promoted amongst relevant stakeholder groups.

3.3.4. The History of Parliament Trust and the IHR will promote the project amongst their communities; in addition, we aim to involve the producers of Hansard in promoting it amongst stakeholders within the parliaments and assemblies of the United Kingdom.

3.3.5. An article in the academic literature will examine the wider implications of the project, and conference papers on its findings may be submitted as appropriate. The

launch of the project will be publicised through press releases as well as through the standard academic channels of communication such as email lists, conference announcements etc.

3.4. Evaluation

3.4.1. Throughout the project, results and findings will be evaluated by the project management board and fed back into future work.

3.4.2. The PML schema and controlled vocabularies will be evaluated by subject experts and tested against available data throughout the project. This evaluation will take place through face-to-face meetings of experts and through discussions on the project blog.

3.4.3. As part of workpackage 5, a detailed report on the processes and difficulties associated with data conversion will be drawn up, which will act as a further evaluation of the practicalities of the overall approach.

3.4.4. A small focus group held at NLW will evaluate the interface to the union catalogue and publish a short report on its findings.

3.4.5. Feedback from academics will be elicited at conferences, and from practitioners from presentations to MPs and other interested parties.

3.4.6. The final workshop will provide an opportunity for further feedback on the project and for an assessment of the value of its contribution made to Parliamentary research.

4. Budget

Directly Incurred Staff	November 2011– March 2012	April 2012– March 2013	TOTAL £
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

			£9,152.42
Total Directly Incurred Staff (A)	£11,932.99	£70,165.33	£82,098.32
Non-Staff			
	November 2011– March 2012	April 2012– March 2013	TOTAL £
Travel and expenses	£1,500	£3,500	£5,000
Hardware/software	£	£	£
Dissemination	£1,000	£3,000	£4,000
Evaluation	£	£2,000	£2,000
Other – 5 years maintenance for union catalogue - NLW	£	£500	£500
Total Directly Incurred Non-Staff (B)	£2,500	£9,000	£11,500
Directly Incurred Total (C) (A+B=C)			
	£14,432.99	£79,165.33	£93,598.32
Directly Allocated			
	November 2011– March 2012	April 2012– March 2013	TOTAL £
Estates			£0.00
IHR	£935.38	£1,496.60	£2,431.98
KCL	£1,308.87	£3,795.74	£5,104.61
QUB	£2,728.07	£4,417.78	£7,145.85

Other	£	£	£
Directly Allocated Total (D)	£15,540.55	£30,774.51	£46,315.06
Indirect Costs (E)			
IHR	£4,834.75	£7,735.60	£12,570.35
KCL	£4,613.03	£13,377.78	£17,990.81
QUB	£4,818.35	£8,073.70	£12,892.05
Total Project Cost (C+D+E)	£44,239.67	£139,126.92	£183,366.59
Amount Requested from JISC	£28,128.43	£109,959.42	£138,087.85
Institutional Contributions			
IHR	£2,426.64	£3,929.80	£6,356.44
KCL	£2,413.51	£7,092.68	£9,506.19
History of Parliament Trust	£1,153.85	£1,846.15	£3,000.00
QUB (estates and indirect costs, except for P. Ell)	£6,639.88	10623.81	£17,263.69
NLW	£3,477.36	£5,675.06	£9,152.42
total contribution	£16,111.24	£29,167.50	£45,278.74
Percentage Contributions over the life of the project	JISC	Partners	Total
	75%	25%	100%
No. FTEs used to calculate indirect and estates charges, and staff included	No FTEs	3.26	Which Staff all mentioned above

5. Previous Experience of the Project Team (all currently in post)

5.1. **Richard Gartner**, the Information and Knowledge Specialist at CeRCH is a metadata expert of over twenty years' experience. He has been the project manager several large JISC projects, including Readiness for REF (R4R) and Measuring Impact under CERIF (MICE). He has also worked on the JISC-funded Stormont Papers project and previously worked on digitising Cobbett's Parliamentary Papers at Oxford. He also teaches metadata theory and practice to MA students at King's College London. He previously worked as metadata strategy co-ordinator for the Oxford Digital Library and is a member of the editorial board for the METS standard.

5.2. **Paul Seaward**, the Director of the History of Parliament Trust, has published a number of books and articles on parliamentary history in the seventeenth and

twentieth centuries. For thirteen years he was a clerk in the House of Commons, working on the preparation of the House's Journals and other material. He has overseen the placing online of all of the History of Parliament's biographies of MPs and constituency histories, and has been a member of project boards for British History Online and BOPCRIS.

- 5.3. **Jane Winters** has been Head of Publications at the Institute of Historical Research since 1999, and of the new IHR Digital since the autumn of 2010. She is responsible for the IHR's publishing and scholarly communications strategy, including the management of a range of research projects focusing on the provision of digital resources for historians. Currently, she is Co-Director of the JISC-funded Connected Histories project; Principal Investigator of the AHRC-funded Early English Laws project to digitise Anglo-Saxon legal texts; Principal Investigator of the JISC-funded ReScript usability project; and Publishing Editor of the Bibliography of British and Irish History. She is also Executive Editor of the IHR's journal, *Historical Research*.
- 5.4. **Paul S Eil**, Director of the Centre for Data Digitisation and Analysis at Queen's University Belfast has received more than 70 grants awards for a total of around £8 million. He has considerable experience in the development of parliamentary electronic resources having received a £303,000 AHRC grant to computerise Hansard for the House of Commons of the Stormont Parliament (a project graded 'outstanding' following peer review on its completion), and having been a member of the BOPCRIS consortium and the team funded by JISC to digitise the Stormont Senate debates. As well as developing e-resources he has written a number of books and journal articles, including two monographs published by Cambridge University Press. He is co-editor of the *International Journal of Humanities and Arts Computing*.
- 5.5. **Jonathan Blaney** has been Project Editor at British History Online since 2007. He is responsible for setting keying guidelines for the published series, answering editorial queries from the keying companies, and for quality assurance and fine-tuning of the resulting transcription and XML tagging. In addition, he has provided support on a range of JISC-funded projects, notably those in the recent Impact and Imbedding and Usability programmes. Previously he worked for the Bodleian Library's digitization centre, the Oxford Digital Library, where he mainly worked on the Early English Books Online Text Creation Partnership, but also advised various projects on encoding and digitisation.
- 5.6. **Paul Bevan** is Head of ICT at the National Library of Wales. In this role he is responsible for the Library's development team who work primarily to support and enhance the Library's digital repository infrastructure. . In the past, Paul has worked on a number of projects within the library including the implementation of a library Digital Asset Management System, devising its Web 2.0 strategy, the provision of all-Wales services through the CyMAL funded "library.wales.org" portal and the archiving of Welsh websites as part of the UK Web Archiving Consortium.
- 5.7. **Lorna Hughes** is the University of Wales Chair in Digital Collections, responsible for a research programme based around the digital collections of Wales, with a specific focus on enhancing the use, impact and value of digital collections. Previously, Hughes was deputy Director at the Centre for e-Research, King's College London. She was Programme Director of the AHRC ICT Methods Network from 2005-8. She recently edited a book entitled: "Digital Collections: Use, Value and Impact". She was the PI on the JISC funded SPHERE (e-Content & Digitisation programme 7/10: Impact & embedding of digitised resources) and SAILS (e-Infrastructure 2/10: Exposing digital content for education and research) projects, and co-I on the JISC project "Enabling uptake of e-infrastructure services".