

# White Paper Report

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## Introduction

Progress in the Digital Humanities often comes from interactions between members of a community as they work to discuss and solve problems as well as share solutions. The NEH-Funded *Linked Ancient World Data Institute* twice assembled an internationally recognized faculty together with students with the goal of growing the community of Ancient World scholars and practitioners able to address issues of access to and the permanence of humanities data. The framework of these events — which combined aspects of classroom pedagogy, workshop, even “hackfest” — was the approach to internet-based publication known as “Linked Open Data.” By maintaining a focus on stable web-addresses (Uniform Resource Identifiers, or URIs), machine- and human-readable forms of data, open licensing, and adherence to existing standards alongside evaluation of where the Ancient World DH community needs new standards, LAWDI succeeded in communicating skills and creating relationships between people. LAWDI has led to projects moving forward and discovering online links with related resources, new data being published, and partnerships being formed. By our estimation at the time, and on the basis of feedback from the participants, LAWDI, whether conceived as two specific events or as an ongoing conversation, was a success, and the organizers at both New York University’s Institute for the Study of the Ancient World and Drew University are grateful for the NEH’s support.

## Project Activities

As an Institute for Advanced Topic in the Digital Humanities (IATDH), the main work of LAWDI was the planning and running of two separate sessions that took place in mid-2012 and mid-2013. The first LAWDI was held in New York at NYU’s Institute for the Study of the Ancient World from Wednesday, May 30 through Saturday, June 2nd, 2012. Drew University hosted the second session in Madison, New Jersey from Wednesday, May 29th to Saturday, June 1st 2013. The host of the 2013 meeting was John Muccigrosso, who is a professor in the Classics Department and was Associate Dean and Director of Institutional Research at Drew at the time LAWDI 2013 took place.

The work associated with these events fell into three phases: preparation, running the meetings, and follow-up administrative work. These phases are discussed below. Because the form of each meeting was essentially identical in terms of curriculum, we provide more detail for the 2012 meeting and, or the 2013 meeting, focus mainly on those aspects — particularly the students attending — that differed between the two.

### **LAWDI 2012: Preparation through Acceptance of Students**

In September 2011, Project Director (PD) Tom Elliott, Project Manager (PM) Sebastian Heath, and 2013 Host John Muccigrosso met in New York to set deadlines and discuss issues related to the 2012 session of LAWDI. Subsequent to this meeting, Elliott and Heath worked with ISAW support staff to arrange hotel accommodations for both LAWDI faculty and participants. On January 12th, 2012 an announcement calling for applications to LAWDI was placed on the Digital Classicist Wiki. The deadline for submissions was set for February 17th. By February 17th, just over 50 applications had been submitted, with several applications coming in from institutions indicating a desire to send more than one participant. Over the course of the week of

March 5 acceptances were sent out.

The attendees at LAWDI 2012 were as follows.

*LAWDI 2012 Students (with affiliations listed as they were in 2012):* Phoebe Acheson (Librarian, University of Cincinnati), Elton Barker (Faculty, Open University), Ryan Baumann (Staff, University of Kentucky), Kimberly Durante (Archivist, Emory University), Brad Hafford (Staff, University of Pennsylvania Museum), Camilla MacKay (Librarian, Bryn Mawr College), Alice Lynn McMichael (Graduate Student, City University of New York), David Michelson (Faculty, University of Alabama), Elli Mylonas (Librarian, Brown University), Terhi Nurmikko (Graduate Student, Southampton, UK), Dominic Oldman (Staff, British Museum), Laurie Pearce (Staff, University of California, Berkeley), Eric Poehler (Faculty, University of Massachusetts-Amherst), Adam Rabinowitz (Faculty, University of Texas-Austin), Matteo Romanello (Graduate Student, King's College London), David Schloen (Faculty, University of Chicago), Wolfgang Schmidle (Staff, Arachne, Germany), Steven Tinney (Faculty, University of Pennsylvania), John Wallrodt (Staff, University of Cincinnati), and Christopher Blackwell (Faculty, Furman University).

*LAWDI 2012 Faculty:* Bridget Almas (Perseus Project), Gabriel Bodard (Kings College London), Hugh Cayless (NYU Library/ISAW), Sean Gillies (NYU/ISAW), Ethan Gruber (American Numismatic Society), Corey Harper (New York University Libraries), Leif Isaksen (U. of Southampton, UK), Charles Jones (NYU Library/ISAW), Eric Kansa (Alexandria Archive/Open Context), Andrew Meadows (American Numismatic Society), Daniel Pett (British Museum/Portable Antiquities Scheme), Andrew Reinhard (American School of Classical Studies), Christopher Warner (NYU/ISAW).

Two of the above faculty were not part of the original proposal: Bridget Almas replaced Gregory Crane as a representative from the Perseus Project and Corey Harper replaced Edward Summers.

## **LAWDI 2012 Event: Arrangements, Final Preparation through June 2nd, 2012**

As hoped and due to extensive assistance from ISAW staff, the 2012 LAWDI meeting in New York City went well. It is worth noting that LAWDI was, at that time, the largest event ever hosted by ISAW. In that regard, Elliott and Heath do wish to recognize in this final report the assistance of their colleagues. In particular, travel and hotel arrangements for all students and faculty were made without any undue complications.

In early May, readings were posted to the Digital Classicist Wiki and a program along with practical information was circulated. All participants (faculty and students) added brief and informal biographies to a shared Google Document. This exercise contributed significantly to establishing an environment of open scholarly exchange.

As planned for in the original proposal, Wednesday May 30th was given over to a meeting of all the LAWDI faculty. This meeting was extremely useful as it facilitated better coordination of the content of presentations. We would very much encourage other planners of IATDH events to

schedule a similar day if it seems appropriate. In particular, not all members of the faculty knew each other beyond interactions via email and social media. The chance to talk face-to-face made it easier to promote connections between faculty and students during the actual event.

LAWDI 2012 itself, meaning the period when both faculty and students were in attendance stretched from the morning of Thursday, May 30 through the early evening of Saturday, June 2nd. The schedule of presentation is given in Appendix 1 as it appeared in the LAWDI 2012 program. After introductory remarks, the talks began with a presentation by Heath titled “Beyond HREF”. A version of the slides that he showed are available on SlideShare via <http://www.slideshare.net/sfsheath/beyond-href-lawdi>. The goal of this opening session was to establish a common ground related to the importance of stable URI, machine-readable data, and the important concept of RDF triples. After Heath spoke, the day consisted of a series of talks by LAWDI faculty and students. In day one we put student talks towards the end of the day so that the faculty could set the tone of the event. A distinguishing feature of the student talks is that we had not asked them for titles. We did not want anyone to feel a burden to say something “new”. Rather, we had suggested that the focus on the themes of “What data do I have”, “How can that data be used by others”, and “What data do I need from others.” Alternatively, students were encouraged to construct their presentations along other lines if that seemed best. For their part, the faculty did prepare talks that addressed their areas of expertise. As shown in the program, faculty were paired so that students would see overlapping topics being addressed from different angles. Time was also left in the schedule for discussion. We note that NYU provided easy to access WiFi to all participants, which is an essential component of the success of such an event.

One feature of the schedule bears explanation. In the introductory presentations, students were told about the “breakout sessions.” Our hope for these sessions was that their topics would be defined by the group as a whole. So we asked students to think about possible topics while listening to the first day’s presentations. Then in the discussion session scheduled for 3:40 to 5:00, the major tasks were: considering these ideas, seeing which ones had support, and then finalizing the list. After such consideration, the following sessions were formed: “Key Vocabularies, New Vocabularies”, “Audience, Reputation, Provenance, Research Questions, Use Cases, and Barriers to Persuasion”, “Getting Started with Linked Data”, and “Hacking Session”.

“Key Vocabularies, New Vocabularies” discussed when to use existing vocabularies but also raised the issue of when Ancient World disciplines might need to engage in the creation of new linked data vocabularies in order to meet their specific needs.

“Audience, Reputation...” particularly looked at how datasets such as numismatics and geography can engage with other data sets that may lie outside the academy. The extent to which linked data can contribute to specific research questions was also addressed.

The “Hacking Session” was focused on the use of Pleiades identifiers to enable integration into the Pelagios project. As expected, this group attracted experienced practitioners able to make progress on their own.

Perhaps the most important breakout session was “Getting started...”. If there is a single lesson to be taken from LAWDI it is that we need to maintain clear focus on empowering new people to feel confident about the first steps to take when considering the creation of a Linked-Data enabled digital resource. There was discussion of specific tools in the “Getting started” session but, just as importantly, a model of enabling LAWDI participants to discover what resources are available in their home institutions was adopted. The session explored what questions should be asked. Is it possible to configure web servers so that URIs are “clean”? Does my institution stand behind not only the data but also its published URIs?

A number of key building blocks for linked data and community of practice were addressed, including:

- Clean, stable URIs as promoted by Tim Berners-Lee and the World-Wide Web Consortium (W3C)
- Web of data vs. web of documents
- Agenda and structural/conceptual aspects of the Resource Description Framework (RDF)
- Fundamental W3C and third-party documentation
- Syntax of the Turtle and RDF/XML serializations
- Established use cases (e.g., [pleiades.stoa.org](http://pleiades.stoa.org), Portable Antiquities Scheme, [nomisma.org](http://nomisma.org))
- Emerging use cases, like prosopography

Each breakout group reported the results of their discussion to the entire group.

LAWDI ended with an open discussion at the close of the third day. By this time, we felt that the group had formed relationships that would be useful in their work going forward. This is in part due to extensive time left for informal communication, much of which took place in the afternoons after the scheduled sessions. We would advise other planners of IATDH events to consider this approach and not overload each day.

Finally, we note that a tour of the exhibition on display at ISAW was offered to LAWDI attendees by the Institute’s exhibition staff.

## **After LAWDI 2012**

The main work following LAWDI 2012 consisted of processing stipends and reimbursements. The participation of non-US residents did add complication and we recommend that planners of future Institutes take this into account as they consider the relevant requirements of their home institutions. As always, Elliott and Heath relied on the expert assistance of ISAW staff.

## **Spring 2013 Institute at Drew University**

Intensive planning for LAWDI 2013 began in the fall of 2012 when Heath, Elliott and Muccigrosso held series of in-person meetings and conference calls. As a subcontractor, Drew University handled all arrangements for accommodations, food, conference facilities and Internet connectivity. NYU/ISAW oversaw the application process and the subsequent travel arrangements, again with extensive involvement by ISAW staff.

Outside the formal framework of the funded work, Heath proposed and ran a Roundtable at the January 2013 Joint Annual Meetings of the American Philological Association/Archaeological Institute of America. This was very well attended and as indicated by a blog post by Sylvia Deskaj, a graduate student at Michigan State University, was effective in “spreading the word” about the community we were engaged in building. Her experience is summarized at <http://sylviadeskaj.wordpress.com/cultural-heritage-informatics/excavating-the-digital-sub-strata-of-an-archaeology-conference/>.

The call for applications went out on 12 January 2013 with a deadline of 18 February. We were again pleased by the range of applications.

*Students:* Rebecca Benefiel (Faculty, Washington & Lee University), Mark Depauw (Researcher, Trisemgistos.org), Sylvia Deskaj (Graduate Student, Michigan State University), Eric Poehler (Faculty, UMass Amherst), Ryan Horne (Graduate Student, UNC/Ancient World Mapping Center), George Kiraz (Syriaca.org), Maurizio Lana (Researcher, Geolat, Italy), Julie Langford (Faculty, University of S. Florida), Faith Lawrence (Staff, Kings College London), Pietro Liuzzo (Staff, Epigraphische Datenbank Heidelberg), Colin McCaffrey (Librarian, Yale Classics Library), Katy Meyers (Graduate Student, Michigan State University), William Murray (Faculty, University of S. Florida), Vincent Razanajao (Staff, Oxford University), Rebecca Seifried (Graduate Student, University of Illinois at Chicago), Jonathan Taylor (Staff, British Museum), Tsoni Tsonev (Staff, Bulgarian National Museum), Ellen VanKeer (Staff, Royal Library of Belgium), Anne-Marie Viola (Staff, Dumbarton Oaks), Scott Williams (Staff, University of Pennsylvania Museum)

The faculty of the 2013 Drew University LAWDI meeting was identical to that of the 2012 meeting at NYU, as was the schedule for the most part. We do note that the faculty also met for one day before the students arrived and that the day was again provided an opportunity for useful preparation and coordination of presentations. The schedule is available in Appendix 2.

As with LAWDI 2012, the topics for the breakouts were set at the end of the first day, and the third day began with reports from each group. The informal titles for the groups were: “People/Names/Prosopographies”, “I have an existing website/project and I’d like help modeling it with the ideas we’ve talked about so far” and “GIS and LOD”.

Drew University provided all services according to the terms of the subcontract between it and NYU. Holding the meeting on a campus provided a very amenable atmosphere, though some participants did need to adjust to the circumstances of a small institution’s undergraduate dorm rooms. Heath and Elliott very much appreciate the efforts of John Muccigrosso in making all arrangements.

## Accomplishments

In our proposal, we articulated the long-term goal for LAWDI as no less than sustainable progress towards the creation and use of interoperable linked data for the study of the Ancient Mediterranean and Ancient Near Eastern worlds. We asserted that the engine of this progress would be an expanded community of scholars, content creators, and content users, equipped with practical knowledge and embedded in a collaborative community of practice.

With this goal in mind, we identified the following objectives for LAWDI attendees:

- Gain a thorough understanding of developing best-practices and the scope of available ancient world digital resources;
- Explore the range of actual and possible uses of such resources;
- Learn the concepts of Linked Open Data sufficiently to be able to introduce them into their own work, either as leaders or implementers of scholarly projects;
- Master specific techniques for the publication of readily reusable linked open data; and
- Establish congenial and collaborative relationships with other practitioners.

These objectives were addressed through both the formal activities described in the preceding section and informal interaction before, during, and after the scheduled events.

Thirty of the 39 LAWDI students (15 from each session) responded to the end-of-project survey described in the Evaluation section, below. Of these, 26 answered all of the questions that were designed to assess project effectiveness. Their responses, summarized below, indicate both a high degree of satisfaction with the event and significant success in achieving the objectives of the institute.

The survey indicates that we succeeded in enabling participants to “learn the concepts of Linked Open Data sufficiently to introduce them into their own work,” one of the key objectives articulated in the proposal. Despite the fact that students rated their pre-existing knowledge of LOD at a fairly low level,<sup>1</sup> they rated the utility of their LAWDI experience highly. Students were asked to rate their agreement with the statement “What I learned at LAWDI was useful” using a scale of 0-10 (0 = “strongly disagree” and 10 = “strongly agree”). The average value of responses to this question was 8.73 with a standard deviation of only 1.69. The lowest value was 4.0 and the highest 10.0. They were also asked to make a similar assessment of the statement “Considering all aspects of LAWDI, attending was useful.” The average value of responses to this question was 9.17, with a standard deviation of only 1.21 (maximum 10, minimum 5.9). Students reported significant follow-on use of what they learned in their own work, with 58% claiming to have done so “often” or “as a regular part of my on-going work.”

Survey results also indicate that our community-building efforts were successful. All responding students reported “interaction with LAWDI faculty or participants” since the event, with 35% qualifying this interaction as “often and regularly”. Less rigorously, we can also point to the #lawdi Twitter hashtag, which many of our participants continue to use in order to communicate key updates on projects and to draw attention to new resources and practitioners, as well as relevant technological advances and useful publications.<sup>2</sup> Fifteen of the student participants

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<sup>1</sup> Respondents were asked to rate their “familiarity with Linked Open Data before attending LAWDI” on a scale of 0-10 with 0 indicating “not at all”. Of the 23 responses, the lowest value was 0 and the highest 8, with an average value of 3.78 and a standard deviation of 2.45.

<sup>2</sup> Readers of this report should be reminded that project participants do not have sole control of the #lawdi twitter hashtag and therefore occasionally some unrelated and even potentially offensive tweets using



indicated that they would recommend future workshops to colleagues. We did not have an opportunity to investigate why this number is not higher, given the strong utility ratings. It would be interesting to know if perceptions of colleagues' interests had a bearing on this question.

The positive student reception of LAWDI is reinforced by the faculty, who were asked to complete the same survey. All 10 faculty respondents reported continued use of LOD concepts following the event. The community-building effectiveness of LAWDI is illustrated in the faculty surveys as well, with all reporting on-going interaction with other participants and that these interactions were increased as a result of attending LAWDI events. LAWDI faculty were clearly not just teachers, but also learners. In rating agreement with the statement "What I learned at LAWDI was useful" faculty returned an average response value of 9.3 with a standard deviation of only 0.95. The lowest value was 7.0 and the highest 10.0. On the "Considering all aspects of LAWDI, attending was useful" question, faculty returned an average value of 9.57, with a standard deviation of only 0.82 (maximum 10, minimum 7.5).

## Audiences

In the proposal, we announced our intention to "gather accomplished practitioners, both scholars and technical experts, in the field of Ancient Mediterranean and Near Eastern studies to share their experiences with current and potential creators of publicly accessible digital resources." This latter group — the "target audience" of LAWDI — were conceptualized as "authors of discrete works of digital scholarship who want to understand the impact of networked resources on their own work." We hoped to attract a mix of applications from university faculty and graduate students, as well as professional and technical staff from museums, libraries, and universities. We publicized our position that applicants were not required to be involved in an active digital effort; demonstration of serious intent to engage with digital resources was deemed a sufficient criterion. We planned to pay special attention to geographic location and institutional context to ensure that applicants with little or no access to local digital humanities expertise would be given close consideration. We budgeted to support travel, meals, and accommodations for 20 participants at each running of LAWDI, meaning 40 participants over the life of the program.

We note here that we were pleased to have received and in 12 cases accepted, applications from overseas. We did stress to such applicants that we could only cover their travel costs up to the amount allotted in the original budget (it had assumed only domestic participants). These participants — as well as our 3 overseas faculty members — were particularly valuable for the perspectives on methods, capabilities, and institutional contexts they brought with them. Several of them represented institutions and projects whose activities are integral to the study of the ancient world. If LAWDI had been unable to admit overseas participants, it would have been much less enriching and effective.

As pointed out above, we received a large number of strong applications from individuals across the full range of variation we were seeking. As planned, the combined group represented a

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that hashtag (for unrelated reasons) do appear in search results. Link to Twitter search for the hashtag: <https://twitter.com/search?f=realtime&q=%23lawdi&src=typd>.

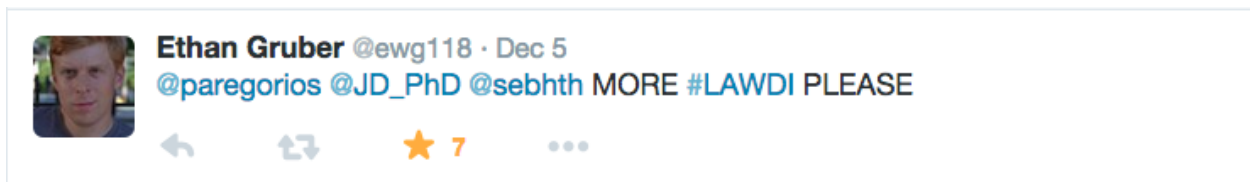
range of technical skills as well as a mix of well-established and early-stage projects. Of the 39 students who actually attended one of the LAWDI sessions, 12 were university faculty, 8 graduate students, 6 academic library or archives staff members, 7 other university staff (mostly technical), 5 museum staff members, and 1 academic publisher. Fourteen students were female and 24 male. Students hailed from 19 U.S. states, the District of Columbia, and 5 foreign countries.<sup>3</sup> We did not collect age information.

## Evaluation

We completed the plan of evaluation outlined in the proposal by way of anonymous survey of participants. Key results are discussed throughout this report. A copy of the survey instrument, and two reports on the results (one for faculty, the other for students) may be found in the appendices.

## Continuation of the Project

There are no immediate plans to continue LAWDI; however, there is significant interest in follow-on activities. Twenty-three of our students indicated in the post-event survey that, if future workshops were held, they would want to participate themselves. This enthusiasm was echoed in participant Ethan Gruber's recent tweet:



There was extensive discussion among UK-based LAWDI faculty and other European colleagues in late 2013 and early 2014 about the possibility of holding a LAWDI-like event in London on a less heavily funded basis (inspired by the popular THATCamp events), but this initiative seems to have stalled due to lack of funds and volunteer time (many participants in the discussion are academic, library, or museum staff members, rather than faculty).

The Digital Programs team at ISAW, lead by PD Tom Elliott, has put a future LAWDI series on a list of projects for which we are seeking external funding, but as yet no prospective donors have been identified.

## Long-Term Impact

LAWDI has established ISAW's digital programs team as a center of expertise on Linked Data and the Open Web. Consequently, Elliott and Heath are now assisting a wide range of digital humanities projects on relevant topics, including the NEH-funded Syriac Reference Portal, the

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<sup>3</sup> U.S. States: Alabama, California, Connecticut, Florida (2), Georgia, Illinois (2), Kentucky, Massachusetts (2), Michigan (2), New Jersey, New York, North Carolina, Ohio (2), Pennsylvania (4), Rhode Island, South Carolina, Texas, and Virginia. Foreign countries: Belgium (2), Bulgaria, Germany (2), Italy, and the United Kingdom (6).

Mellon-funded Digital Latin Library and Integrating Digital Greek projects, and the EU-funded EAGLE Europeana epigraphic initiative.

The experience of LAWDI has also helped formed ISAW's perception of the role and importance of Linked Open Data approaches in the preparation of its graduate students and the professional development of its visiting scholars. Accordingly, the faculty has recently endorsed the inclusion of digital humanities training in the ISAW graduate curriculum, and Heath is already teaching graduate seminars on relevant topics. We are engaged in university-wide discussions intended to organize cross-departmental curricular opportunities in digital humanities for NYU graduate students, to which ISAW will contribute its particular expertise in linked open data.

## Grant Products

There are three tangible collections of grant products resulting from LAWDI.

As anticipated in the proposal, the Digital Classicist Wiki provided a web-accessible information hub for the Institutes. A landing page for LAWDI was created in advance ([https://wiki.digitalclassicist.org/Linked\\_Ancient\\_World\\_Data\\_Institute](https://wiki.digitalclassicist.org/Linked_Ancient_World_Data_Institute)), and a rich array of relevant readings and other information was assembled before, during, and after the sessions (<https://wiki.digitalclassicist.org/Category:LAWDI>). This material remains freely available to the public.

Participants in both LAWDI 2012 and 2013 placed work on the public Internet, mostly in the form of either sharing slides from their presentations or by publishing blog posts. We have included in Appendix 6 the web addresses we have been able to identify.

Participants in the first LAWDI session encouraged the preparation of a volume of papers related to the theme of the Institute. Participants in the second event concurred, and work began on *Current Practice in Linked Open Data for the Ancient World*, which appeared in 2014 as volume 7 in the open-access digital journal *ISAW Papers* (<http://dlib.nyu.edu/awdl/isaw/isaw-papers/7/>).

## APPENDIX I: LAWDI 2012 Program

### Day 1 at a Glance (Thursday, 31 May: ISAW Lecture Hall and Seminar Room)

- 9:00 - 9:30 : *Introductory Remarks* (Elliott and Muccigrosso, 9:00-9:30):
- 9:30 - 10:20 : *Beyond HREF* (Heath)
- Coffee break
- 11:00 - 11:50 : *Geography as a Resource for Ancient World Scholarship* (Elliott, Isaksen)
- 12:00 - 1:00 : Lunch
- 1:00 - 1:50 : *Ancient Texts in/as Linked Data* (Almas, Cayless)
- 2:00 - 3:30 : *6 15-Minute Participant Presentations* (Muccigrosso)
  - Romanello
  - Blackwell
  - Rabinowitz
  - Nurmikko
  - Oldman
  - Mylonas
- Tea
- 3:40 - 5:00 : Discussion (defining Day 2 Breakout Groups)

### Day 2 at a Glance (Friday, 1 June: ISAW Lecture Hall and Seminar Room; breakout to 6th floor conference rooms)

- 9:10-10:00 : Libraries and Linked Data (Harper, Jones)
- 10:00 - 10:30: 2 15-minute Participant Presentations
  - Acheson
  - Durante
- Coffee Break
- 11:00- 11:50 : Managing and Serializing Content (Gillies, Warner)
- 12:00 - 12:50 : Lunch
- 12:50 - 1:40: Material Culture and Linked Data (Kansa, Pett)
- 1:50 - 2:20: Numismatics, a case study in Linked Data (Gruber, Meadows)
- 2:30 - 3:30 : Breakout Groups
- Tea
- 3:45 - 5:00 : 5 15-Minute Participant Presentations (Heath)
  - Hafford
  - Tinney
  - Wallrodt
  - Schmidle
  - Schloen
- After hours: 5:15 - 5:50 Tour of the ISAW exhibition, "Nomads and Networks"  
(<http://isaw.nyu.edu/exhibitions/nomads-and-networks>).

### Day 3 at a Glance (Saturday, 2 June: ISAW Lecture Hall and Seminar Room)

- 9:00 - 10:30: Breakout group reports

- 10:45 - 11:45: Journals, Monographs and Linked Data (Reinhard and Heath)
- 12:00 - 1:00: Lunch
- 1:00 - 2:45: 7 Participant Presentations (Elliott)
  - Mackay
    - Poehler
    - Pearce
    - Michelson
    - McMichael
    - Bauman
    - Barker
- 2:45 - 5:00: Discussion: Building a Community of Practice (Heath)

## APPENDIX 2: LAWDI 2013 Program

### Day 1 at a Glance (Thursday, 30 May:)

- 9:00 - 9:30 : *Introductory Remarks* (Elliott and Muccigrosso)
  - *(be thinking about what you'd like for a breakout session on day 2)*
- 9:30 - 10:30 : *Beyond HREF* (Heath)
- *Coffee Breakout*
- 10:50 - 11:20 : *Linked Data and ISAW: How and Why* (Elliott)
- 11:20 - 11:50 : *Pelagios [...]* (Isaksen)
- *Lunch*
- 1:00 - 1:50 : *Ancient Texts in/as Linked Data* (Almas, Cayless)
- *[break]*
- 2:00 - 3:30 : *6 10-Minute Participant Presentations* (Bodard)
  - Eric Poehler
  - Mark Depauw
  - Maurizio Lana
  - Sylvia Deskaj
  - Dumbarton Oaks
  - Pietro Liuzzo
- *Coffee Breakout*
- 3:40 - 5:00 : *Discussion/Defining Day 2 Breakout Groups* (Muccigrosso)

### Day 2 at a Glance (Friday, 31 May:)

- 9:00-10:00 : *Archaeology and Linked Data* (Kansa, Pett)
- 10:00 - 10:45: *3 10-minute Participant Presentations* (Pett)
  - Vincent Razanajao
  - George Kiraz
  - Terhi Nurmikko
- *Coffee Breakout*
- 11:00 - 11:50 :
  - *Geospatial Linked Data* (Gillies)
  - *Managing and Serializing Content* (Warner)
- *Lunch*
- 1:00 - 1:50: *Libraries and Linked Data* (Harper, Jones)
- 1:50 - 2:20: *Numismatics, a case study in Linked Data* (Gruber, Meadows)
- *[break]*
- 2:30 - 3:45 : *5 10-Minute Participant Presentations* (Heath)
  - Ryan Horne
  - Faith Lawrence
  - Tsoni Tsonev
  - Rebecca Benefiel/Sarah Sprenkle
  - Rebecca Seifried
- *Coffee Breakout*

- 4:00 - 5:00 (or later by consensus) : Breakout Groups

Day 3 at a Glance (Saturday, 1 June)

- 9:30 - 10:30: Breakout group reports (Bodard)
- *Coffee Breakout*
- 10:45 - 11:45: Journals, Monographs and Linked Data (Reinhard and Heath)
- *Lunch*
- 1:00 - 2:45: 7 10-minute Participant Presentations (Elliott)
  - Christopher Warner
  - Julie Langford
  - Katy Meyers
  - William Murray
  - Scott Williams
  - Ellen VanKeer
  - Jonathan Taylor
- *Coffee Breakout*
- 3:00 - 5:00: Discussion: Building a Community of Practice (Heath)
- 6 pm: *BBQ dinner at Drew (This is the only organized group dinner.)*

## APPENDX 3: Participant Survey



Which LAWDI session did you participate in and how? Mark all that apply. Text

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- LAWDI 2012 Participant
- LAWDI 2012 Faculty
- LAWDI 2013 Participant
- LAWDI 2013 Faculty

How familiar were you with Linked Open Data before attending LAWDI?

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	0	1	2	3	4	5	6	7	8	9	10
Not at all											

How would you describe your level of computer skills at the time you attended LAWDI?

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	0	1	2	3	4	5	6	7	8	9	10
Very limited											

Have you applied concepts of Linked Open Data in your own work since attending LAWDI?

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- Not at all
- A few times
- Often
- Linked data is a regular part of my ongoing work.

How often have you interacted with LAWDI faculty or participants since attending LAWDI?

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- Never
- Occasionally
- Often and regularly

To what degree is your interaction with other LAWDI participants due to your shared participation in LAWDI?

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- Not applicable since I don't interact.
- My interaction with other LAWDI participants did not change from before to after as I already knew many people.
- My interaction did not change or decreased.
- My interaction increased somewhat due to meeting new colleagues.
- My interaction increased greatly due to meeting new colleagues.

My interaction increased greatly due to meeting new colleagues.

What I learned at LAWDI was useful. 0 = Strong disagree, 10 = Strongly agree.

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	0	1	2	3	4	5	6	7	8	9	10
Disagree											

The faculty presentations at LAWDI were:

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- Too technical
- Just right
- Not technical enough

If further LAWDI workshops took place, I would:

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- Want to participate myself
- Want to participate myself but only if scope were narrowed to a particular field or technical approach
- Not want to participate
- Recommend that colleagues participate
- Not recommend participation to colleagues

The balance between lecture/presentation and hands-on technical learning opportunities at LAWDI was?

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- Too much lecture/presentation, not enough hands-on
- Just right
- Too much hands-on work, not enough lecture/presentation
- Would have preferred a longer workshop in order to have additional time for hands-on

Considering all aspects of LAWDI, attending was useful? 0 = Strong disagree, 10 = Strongly agree.

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	0	10	20	30	40	50	60	70	80	90	100
Disagree											

Please provide additional feedback or comments.

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## APPENDIX 4: Participant Survey Results (Students)

## Student Responses

Last Modified: 12/30/2014  
Filter By: Report Subgroup

1. Which LAWDI session did you participate in and how? Mark all that apply.

#	Answer	Bar	Response	%
1	LAWDI 2012 Participant		15	54%
2	LAWDI 2012 Faculty		0	0%
3	LAWDI 2013 Participant		16	57%
4	LAWDI 2013 Faculty		1	4%

Statistic	Value
Min Value	1
Max Value	4
Total Responses	28

2. How familiar were you with Linked Open Data before attending LAWDI?

Statistic		Value				
Total Responses		23				

#	Answer	Min Value	Max Value	Average Value	Standard Deviation	Responses
1	Not at all	0.00	8.00	3.78	2.45	23

3. How would you describe your level of computer skills at the time you attended LAWDI?

#	Answer	Min Value	Max Value	Average Value	Standard Deviation	Responses
1	Very limited	2.00	10.00	5.78	2.41	27

4. Have you applied concepts of Linked Open Data in your own work since attending LAWDI?

#	Answer	Bar	Response	%
1	Not at all		1	4%
2	A few times		11	41%
3	Often		6	22%
4	Linked data is a regular part of my ongoing work.		9	33%
	Total		27	

Statistic	Value
Min Value	1
Max Value	4
Mean	2.85
Variance	0.90
Standard Deviation	0.95
Total Responses	27





5. How often have you interacted with LAWDI faculty or participants since attending LAWDI?

#	Answer	Bar	Response	%
1	Never		0	0%
2	Occasionally		18	67%
3	Often and regularly		9	33%
	Total		27	

Statistic	Value
Min Value	2
Max Value	3
Mean	2.33
Variance	0.23
Standard Deviation	0.48
Total Responses	27



6. To what degree is your interaction with other LAWDI participants due to your shared participation in LAWDI?

#	Answer	Bar	Response	%
1	Not applicable since I don't interact.		0	0%
2	My interaction with other LAWDI participants did not change from before to after as I already knew many people.		1	4%
3	My interaction did not change or decreased.		4	15%
4	My interaction increased somewhat due to meeting new colleagues.		10	37%
5	My interaction increased greatly due to meeting new colleagues.		12	44%
Total			27	

Statistic	Value
Min Value	2
Max Value	5
Mean	4.22
Variance	0.72
Standard Deviation	0.85
Total Responses	27

7. What I learned at LAWDI was useful. 0 = Strong disagree, 10 = Strongly agree.

#	Answer	Min Value	Max Value	Average Value	Standard Deviation	Responses
1	Disagree	4.00	10.00	8.74	1.65	27

8. The faculty presentations at LAWDI were:

#	Answer	Bar	Response	%
1	Too technical		4	15%
2	Just right		20	74%
3	Not technical enough		3	11%
	Total		27	




Statistic	Value
Min Value	1
Max Value	3
Mean	1.96
Variance	0.27
Standard Deviation	0.52
Total Responses	27

9. If further LAWDI workshops took place, I would:

#	Answer	Bar	Response	%
1	Want to participate myself		23	85%
2	Want to participate myself but only if scope were narrowed to a particular field or technical approach		1	4%
3	Not want to participate		0	0%
4	Recommend that colleagues participate		16	59%
5	Not recommend participation to colleagues		0	0%

Statistic	Value
Min Value	1
Max Value	4
Total Responses	27

10. The balance between lecture/presentation and hands-on technical learning opportunities at LAWDI was?

#	Answer	Bar	Response	%
1	Too much lecture/presentation, not enough hands-on		9	33%
2	Just right		7	26%
3	Too much hands-on work, not enough lecture/presentation		0	0%
4	Would have preferred a longer workshop in order to have additional time for hands-on		11	41%
	Total		27	

Statistic	Value
Min Value	1
Max Value	4
Mean	2.48
Variance	1.80
Standard Deviation	1.34
Total Responses	27

11. Considering all aspects of LAWDI, attending was useful? 0 = Strong disagree, 10 = Strongly agree.

#	Answer	Min Value	Max Value	Average Value	Standard Deviation	Responses
1	Disagree	59.00	100.00	92.04	11.96	27

12. Please provide additional feedback or comments.

**Text Response**

It is impossible to overstate how important LAWDI 2012 was for all of our work on the Homer Multitext, CTS, and CITE, as well as my Historical Botany work.

LAWDI was a fantastic experience that has really shaped the way that I conduct research and share data with others. While I haven't been able to implement as many of the tools/ideas as I would have liked- I hope to do so in the future. I would LOVE to attend another LAWDI session- it was so inspiring and I am so grateful I was selected to attend.

I didn't manage to submit my paper for the collective book, which I really regret though I felt my project was not matured enough to be presented then, and I also never - I would love it not to be true – thank you for the workshop when I went back to Europe, so I seize the opportunity of this form to do it now. Thanks very very much for this workshop and all the good discussions we had. If the project I run has moved forward till then, it is really thanks to it. Best wishes,V.

The experience was excellent, particularly in letting me see what was/is possible. It might have been useful to have recommended tutorials (in addition to readings) to do beforehand, because my technical skills were lower than those of many participants at the time.

But this one goes to 100!

This workshop allowed me to develop some ideas, build some contacts, and understand some concepts that made possible a successful NEH DH startup grant focused on a Linked Data resource. So yes, it was pretty useful!

My comment that the faculty presentations were too technical reflect the very elementary stage of my involvement with digital tools and computing skills at the time of the workshop.

Both LAWDI events were amazing. I really enjoyed myself for several reasons: All other attendants were amazing, interesting, well-educated, delightful people with whom I share a niche interest. It was a safe place with like-minded individuals, and I felt very much at home. DH casual was the perfect dress code. Everything about LAWDI was brilliant.

Very helpful. Without LAWDI, I would not be collaborating with three other projects, and my own would not be anywhere near as advanced. Thank you for a wonderful workshop!

LAWDI is the best thing that's ever happened to me.

The workshop was incredibly valuable, and I've been working on linked data since learning about it at LAWDI. In this survey, it's hard to answer the question about whether the presentations were too technical—there aren't enough choices there. There were frustrating aspects. A few of the faculty weren't really working with linked data at all and that just made things somewhat confusing, since a number of people were just talking about links and not linked data (also, with maybe one or two exceptions in 2012, the entire faculty was male—surely there are some women working on this out there!). I actually wonder whether the faculty/participant distinction was useful—it was immediately pretty clear who were the experts, and the contributions of some of the participants were just as informative. For those of us who came in essentially cold, a more basic introduction and hands-on approach would have been beneficial, and—I think this is very important—it also would have been useful to get a better idea of the state of the field—that the potential for linking and reuse allowed by linked data has not been realized, and where the successes and failures lie. I bought the importance and the potential, but the sometimes untempered evangelism also led to confusion, since practical, user-centered applications of linked data are even now hard to find: what was it I wasn't getting? But, overall, this was a great experience. I feel privileged to have been able to participate and I'm grateful to Tom, Sebastian, and John for creating LAWDI.

My inactivity following LAWDI 2013 was not the fault of the LAWDI instructors or other participants, but due entirely to demands on my time from other projects. As I now prepare to develop my website, I know to whom I can turn regarding linked data issues.

Statistic	Value
Total Responses	12

## APPENDIX 5: Participant Survey Results (Faculty)





## Faculty Responses

Last Modified: 12/30/2014

Filter By: Report Subgroup

1. Which LAWDI session did you participate in and how? Mark all that apply.

#	Answer	Bar	Response	%
1	LAWDI 2012 Participant		0	0%
2	LAWDI 2012 Faculty		7	88%
3	LAWDI 2013 Participant		0	0%
4	LAWDI 2013 Faculty		8	100%

Statistic	Value
Min Value	2
Max Value	4
Total Responses	8

2. How familiar were you with Linked Open Data before attending LAWDI?




Statistic		Value				
Total Responses		10				

#	Answer	Min Value	Max Value	Average Value	Standard Deviation	Responses
1	Not at all	4.00	10.00	7.00	2.16	10

3. How would you describe your level of computer skills at the time you attended LAWDI?



#	Answer	Min Value	Max Value	Average Value	Standard Deviation	Responses
1	Very limited	5.00	9.00	7.80	1.23	10

4. Have you applied concepts of Linked Open Data in your own work since attending LAWDI?

#	Answer	Bar	Response	%
1	Not at all		0	0%
2	A few times		1	10%
3	Often		1	10%
4	Linked data is a regular part of my ongoing work.		8	80%
	Total		10	



Statistic	Value
Min Value	2
Max Value	4
Mean	3.70
Variance	0.46
Standard Deviation	0.67
Total Responses	10

5. How often have you interacted with LAWDI faculty or participants since attending LAWDI?

#	Answer	Bar	Response	%
1	Never		0	0%
2	Occasionally		1	10%
3	Often and regularly		9	90%
	Total		10	

Statistic	Value
Min Value	2
Max Value	3
Mean	2.90
Variance	0.10
Standard Deviation	0.32
Total Responses	10

6. To what degree is your interaction with other LAWDI participants due to your shared participation in LAWDI?

#	Answer	Bar	Response	%
1	Not applicable since I don't interact.		0	0%
2	My interaction with other LAWDI participants did not change from before to after as I already knew many people.		0	0%
3	My interaction did not change or decreased.		0	0%
4	My interaction increased somewhat due to meeting new colleagues.		5	50%
5	My interaction increased greatly due to meeting new colleagues.		5	50%
Total			10	

Statistic	Value
Min Value	4
Max Value	5
Mean	4.50
Variance	0.28
Standard Deviation	0.53
Total Responses	10

7. What I learned at LAWDI was useful. 0 = Strong disagree, 10 = Strongly agree.

#	Answer	Min Value	Max Value	Average Value	Standard Deviation	Responses
1	Disagree	7.00	10.00	9.30	0.95	10

8. The faculty presentations at LAWDI were:

#	Answer	Bar	Response	%
1	Too technical		0	0%
2	Just right		8	100%
3	Not technical enough		0	0%
	Total		8	

Statistic	Value
Min Value	2
Max Value	2
Mean	2.00
Variance	0.00
Standard Deviation	0.00
Total Responses	8



9. If further LAWDI workshops took place, I would:

#	Answer	Bar	Response	%
1	Want to participate myself		9	90%
2	Want to participate myself but only if scope were narrowed to a particular field or technical approach		0	0%
3	Not want to participate		0	0%
4	Recommend that colleagues participate		9	90%
5	Not recommend participation to colleagues		0	0%

Statistic	Value
Min Value	1
Max Value	4
Total Responses	10

10. The balance between lecture/presentation and hands-on technical learning opportunities at LAWDI was?

#	Answer	Bar	Response	%
1	Too much lecture/presentation, not enough hands-on		5	50%
2	Just right		4	40%
3	Too much hands-on work, not enough lecture/presentation		0	0%
4	Would have preferred a longer workshop in order to have additional time for hands-on		1	10%
	Total		10	

Statistic	Value
Min Value	1
Max Value	4
Mean	1.70
Variance	0.90
Standard Deviation	0.95
Total Responses	10

11. Considering all aspects of LAWDI, attending was useful? 0 = Strong disagree, 10 = Strongly agree.

#	Answer	Min Value	Max Value	Average Value	Standard Deviation	Responses
1	Disagree	75.00	100.00	95.70	8.19	10

12. Please provide additional feedback or comments.

Text Response	
<p>Would love to see more roundtable sorts of discussion and hands on. Perhaps in the future, we can follow a LODLAM model where people can come with projects or problems and we can hack on some solutions, e.g. with the Bryn Mawr Classical Review</p>	
<p>LAWDI brought together one of the best, most collaborative, supportive, kind, and genuinely interesting group of researchers and students one can imagine. LAWDI, in putting fun, dynamism, and great ideas together represents a great example of what the Academy could be and should be.</p>	
<p>Thank you for all the LAWDI!!!</p>	
<p>The LAWDI summer schools were pivotal in bringing together a wide range of ancient world practitioners on the subject of Linked Data. It has helped progress the field considerably (and I have heard similar feedback from others).</p>	
<p>LAWDI changed my life, sending it in a new and exciting, collaborative direction.</p>	
<p>I was faculty, so I'm biased, but it seems to me LAWDI was hugely important. I'd like to see the momentum kept up.</p>	
Statistic	Value
Total Responses	6

## APPENDIX 6: Participant Slides and Blog Posts

### Blog Posts

- <https://bonesdontlie.wordpress.com/2013/06/04/lawdi-and-mortuary-archaeology/>
- <http://classicslibrarian.wordpress.com/2012/06/04/lawdi-conference-on-linked-open-data-for-ancient-studies/>
- <http://classicslibrarian.wordpress.com/2012/06/06/library-related-presentations-at-lawdi/>
- <http://classicslibrarian.wordpress.com/2012/06/13/lawdi-3-good-linking-practices-for-bibliographic-stuff/>
- <http://horothesia.blogspot.com/2012/06/ancient-studies-needs-open.html>
- <http://horothesia.blogspot.com/2012/06/how-to-get-born-for-print-bibliography.html>
- <http://icfadumbartonoaks.wordpress.com/2013/06/07/making-connections-at-the-linked-ancient-world-data-institute/>
- <http://mediterraneanceramics.blogspot.com/2012/05/quote-from-neh-lawdi-proposal.html>
- <http://mediterraneanworld.wordpress.com/2013/06/06/linked-archaeology-is-punk-archaeology/>
- <http://pelagios-project.blogspot.com/2012/06/pelagios-at-linked-ancient-world-data.html>
- <http://sgillies.net/blog/1141/gearing-up-for-lawdi>
- <http://sgillies.net/blog/1143/more-field-goals-fewer-pratfalls>
- <http://whafford.livejournal.com/76958.html>
- <http://www.nml.cuny.edu/documentingcappadocia/?p=147>
- <http://www.researchspace.org/home/project-updates/linkedancientworlddatainstitutelawdi-30thmay-june1st>

### Presentations

- <http://www.slideshare.net/charper/charperlawdi20130531> (C. Harper)
- <http://www.slideshare.net/ekansa/lawdi-open-context-publishing-linked-data-in-archaeology> (E. Kansa)
- <http://www.slideshare.net/sfsheath/beyond-href-lawdi> (S. Heath)
- <http://www.slideshare.net/ryanfb/lawdi-rogue-linked-data> (R. Baumann)
- <http://www.slideshare.net/charinos/reinhard-lawdi-presentation> (A. Reinhard)
- <http://www.slideshare.net/atomrab/rabinowitz-at-lawdi> (A. Rabinowitz)
- <http://www.slideshare.net/paregorios/elliott-22206926> (T. Elliott)
- <http://www.slideshare.net/dejp3/presentation-for-linked-ancient-world-data-institute> (D. Pett)
- <http://www.slideshare.net/Menetys/lawdi2> (A. Meadows)