



Research Library Support for Open Science

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Research Library Support for Open Science

- How can Research Libraries support Open Science?

Three examples:

1. Facilitating Open Access publishing
2. Support Research Data Management
3. Providing access to digital collections



The University of Edinburgh

- The context to our work:
 - A large thriving University: 33,609 students, 8,970 staff
 - Breadth of research disciplines across three colleges:
 - Humanities and Social Science
 - Science and Engineering
 - Medicine and Veterinary Medicine
 - 83% of University's research activity is in the highest category 'world leading' and 'internationally excellent'



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The University of Edinburgh

- A big focus on data science
 - The University of Edinburgh has prioritised data science and formally launched 'Edinburgh Data Science' in November 2014 as a focus for our activities across all Colleges.
 - The mission of EDS is to be a world leading data science environment by promoting the highest standards of data science research, innovation and education.
- A member of the £42 million Alan Turing Institute
 - Headed by the universities of Cambridge, Edinburgh, Oxford, Warwick and UCL - the Alan Turing Institute will attract the best data scientists and mathematicians from the UK and across the globe to break new boundaries in how we use big data in a fast moving, competitive world.



The University of Edinburgh

- But what about infrastructure for everybody?
- We must provide core infrastructure for all researchers to support the transition to Open Science
 - Support the long tail



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Facilitating Open Access

- Great policy support for open access in the UK
 - Most research funders now require open access publishing of journal articles and conference papers
 - Green: Free copy deposited in institutional repository
 - Gold: Paid option for immediate open access on publisher's website
 - Some research funders provide funds to publish Gold open access articles
 - The University of Edinburgh receives over €1.4 million in Open Access Gold funding per year
- The next UK Research Excellence Framework (REF) requires all articles to be made open access within three months of acceptance



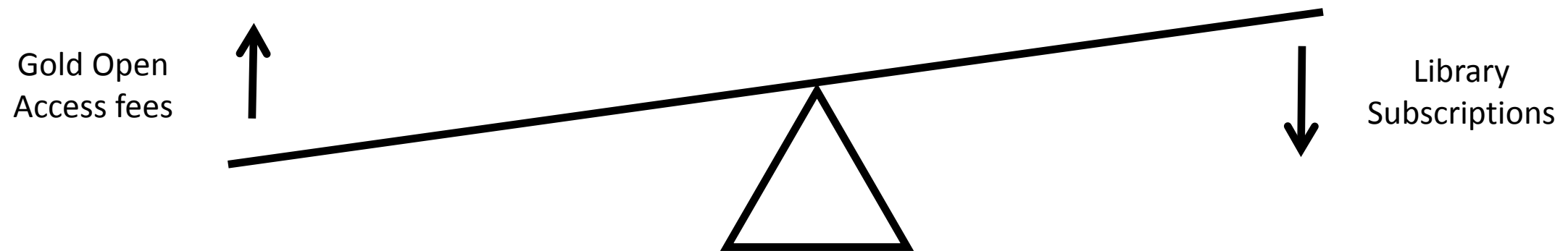
Facilitating Open Access

- Library Support - Expertise in:
 - Tracking and recording publications
 - Recording metadata
 - Paying publishers APCs (article processing charges)
 - Challenges: Track publisher behaviour!



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Total cost of publishing



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Facilitating Open Access

- Library Support:
 - Ability to host publishing platforms
- Edinburgh University Library hosts twelve journals using the free Open Journal System (OJS) software
- It costs the equivalent of 8 average APCs per year to run!
- <http://journals.ed.ac.uk/>



The screenshot displays the 'Journal Hosting Service' website. The header features a red and purple geometric design with the title 'Journal Hosting Service' and navigation links: HOME, ABOUT, LOGIN, REGISTER, and SEARCH. Below the header, a breadcrumb trail reads 'Home > University of Edinburgh Journal Hosting Service'. The main content area states that the University of Edinburgh Library uses OJS (Open Journal Systems) to provide a platform for academic staff and student groups to publish Open Access Journals. It includes a contact email: onlinejournals@mlist.is.ed.ac.uk. A carousel of journal covers is shown, including 'Journal of Lithic Studies', 'Lifespans and Styles', 'Res Medica', and 'e-JECAR'. Below the carousel, four journal tiles are displayed: 'Concept' (The Journal of Contemporary Community Education Practice Theory), 'conservation|architecture|urbanism' (The open access journal of Scottish Centre for Conservation Studies (SCCS)), 'FORUM' (Welcome to the website of FORUM, a peer-reviewed journal for postgraduate students...), and 'Hydra' (Hydra: Interdisciplinary Journal of Social Sciences is a student-focused, peer-reviewed...). Each tile includes a 'VIEW JOURNAL | CURRENT ISSUE' link. On the right side, there is a sidebar with sections: 'Open Journal Systems', 'Journal Help', 'USER' (with fields for Username, Password, and a 'Remember me' checkbox, followed by a 'Login' button), 'JOURNAL CONTENT' (with a search bar and a dropdown menu set to 'All', followed by a 'Search' button), and 'FONT SIZE' (with icons for adjusting font size).

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Research Data Management Policies

- Growing policy support for Research Data Management
 - University of Edinburgh Policy – May 2011
 - UK RCUK Research Councils
 - EC Horizon 2020 pilot
 - Many other research funders



University of Edinburgh RDM Programme

- Planning a Research Data Management Service:
- Research Data Management Programme
 - Delivered by Information Services
 - Supported by central funding
 - Phase 1: August 2012 to May 2015
 - RDM Roadmap: <http://www.ed.ac.uk/schools-departments/information-services/about/strategy-planning/rdm-roadmap>



Research Data Management Services



```
graph TD; A[Data Management Support] --- B[Data Management Planning]; A --- C[Active Data Infrastructure]; A --- D[Data Stewardship]
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Data Management Support

Data
Management
Planning

Active Data
Infrastructure

Data
Stewardship

Data Management Planning

- DMPOnline National tool to create Data Management Plans
 - <https://dmponline.dcc.ac.uk/>

Sections	Questions
Data Capture	<ul style="list-style-type: none">- Describe the types of data the research will generate- How will the data be documented?- How much data will be generated?
Data Management	<ul style="list-style-type: none">- Where will the data be stored?- How will the data be backed-up?- Who will be responsible for this data management?
Integrity	<ul style="list-style-type: none">- How will you quality assure your data?
Confidentiality and IPR	<ul style="list-style-type: none">- How will you manage any ethical issues?- How will you manage copyright and Intellectual Property Rights (IPR) issues?
Retention & Preservation	<ul style="list-style-type: none">- How long should the data be retained after the end of the research?- Which data should be retained after the research?- Identify the repository to which the data will be offered for deposit
Sharing & Publication	<ul style="list-style-type: none">- Specify and justify which data will have value to others and should be shared- Indicate how data will be shared- Are any restrictions on data sharing required?



Active Data Infrastructure

- DataStore
 - 0.5 TB per person (PGRs upwards)
 - Half can be shared / grouped
 - Personal allocation
 - Extra can be purchased by grants @ £200 per TB per year
- DataSync
 - Open Source DropBox-like web / sharing / sync system
 - Imminent launch



Active Data Infrastructure - collaboration

- Subversion

- Source code control system
- Allows software to be developed collaboratively
- Possible move to GitLab (open source equivalent of GitHub)



- Wiki

- Wiki for projects or teams
- Atlassian Confluence



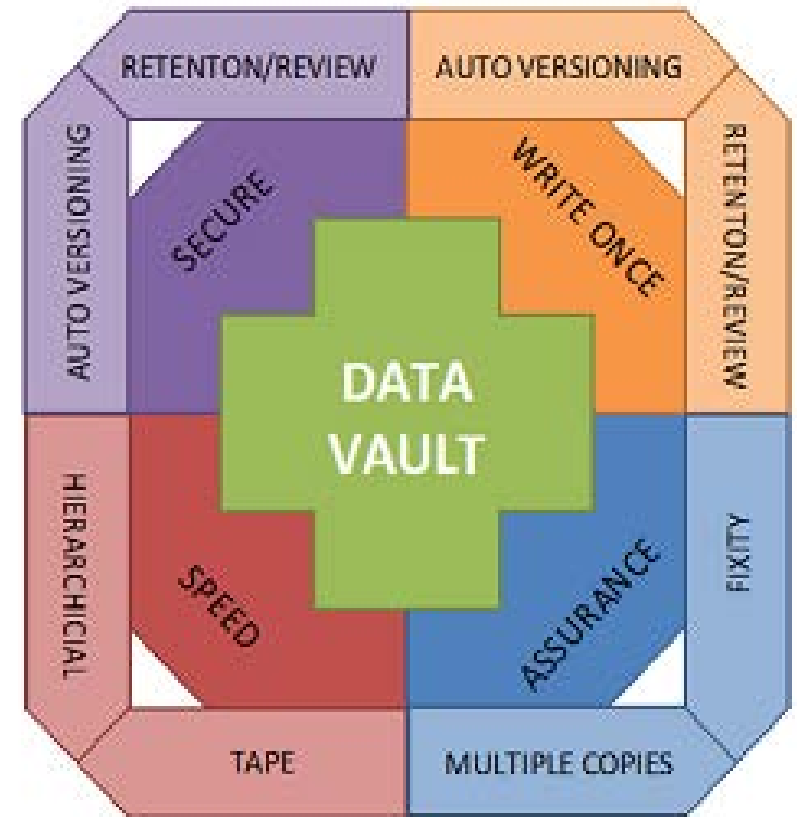
Data Stewardship

- PURE
 - Current Research Information System
 - Allows datasets to be described, and linked to if shared online
- Person A, was awarded Grant B,
which funded Equipment C,
which created data D,
which generated paper E



Data Stewardship

- DataVault
 - Long term archival storage.
 - Move data from DataStore.
 - In development
 - With Manchester University
 - Sponsored by Jisc



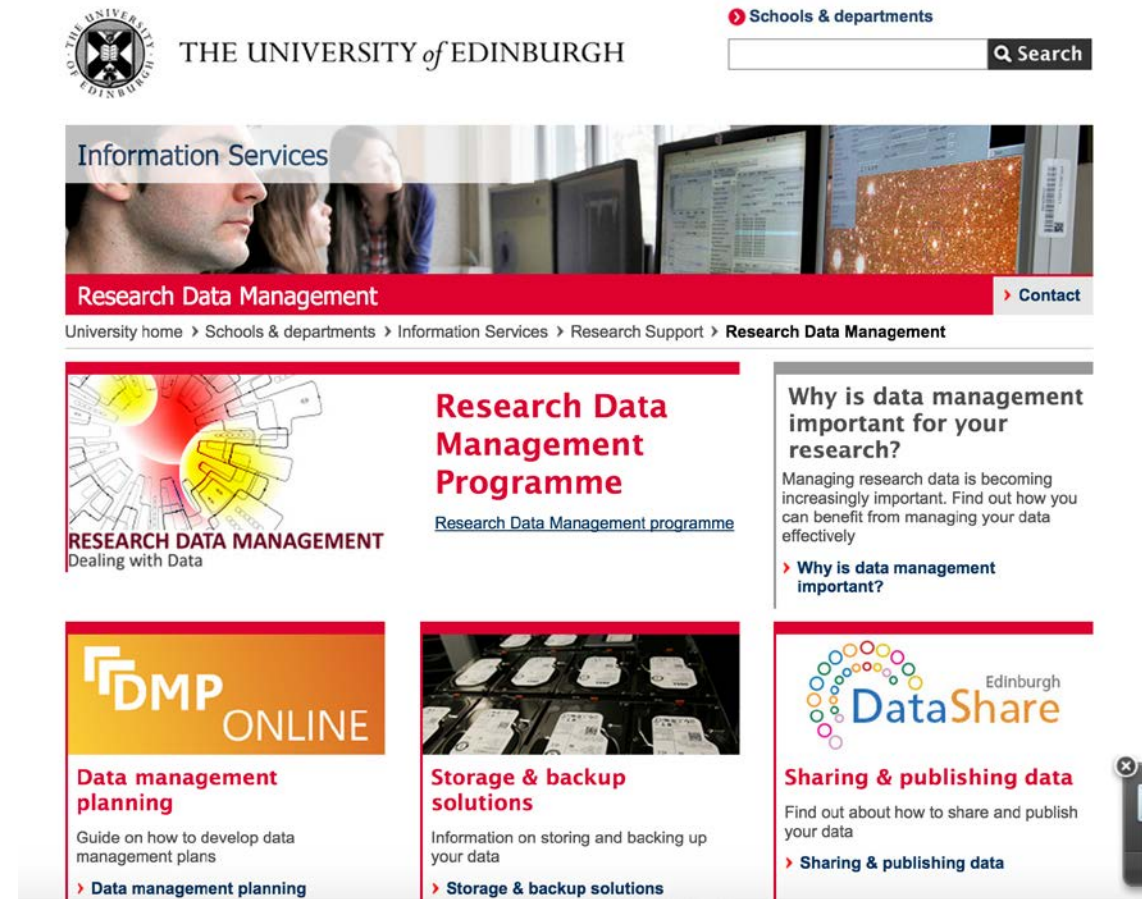
Data Stewardship

- DataShare
 - Online open data repository
 - Uses the DSpace open source repository platform
 - Creates DOIs for datasets
 - <http://datashare.is.ed.ac.uk/>



Data Management Support

- Awareness raising sessions
- Training courses
- On-demand support
- MANTRA online course
 - <http://datalib.edina.ac.uk/mantra/>



The screenshot displays the 'Research Data Management' page of The University of Edinburgh's Information Services. The header includes the university's crest and name, a navigation menu with 'Schools & departments', and a search bar. A banner image shows people working at computers, with the text 'Information Services' and 'Research Data Management' overlaid. Below the banner is a breadcrumb trail: 'University home > Schools & departments > Information Services > Research Support > Research Data Management'. The main content area features a large graphic of interlocking gears with the text 'RESEARCH DATA MANAGEMENT Dealing with Data' and a link to the 'Research Data Management programme'. To the right, a section titled 'Why is data management important for your research?' explains the importance of managing research data and includes a link to 'Why is data management important?'. Below this, three smaller sections are visible: 'DMP ONLINE' (Data management planning), 'Storage & backup solutions', and 'DataShare' (Sharing & publishing data). Each section includes a brief description and a link to the relevant resource.

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Schools & departments

Q Search

Information Services

Research Data Management

Contact

University home > Schools & departments > Information Services > Research Support > Research Data Management

RESEARCH DATA MANAGEMENT
Dealing with Data

Research Data Management Programme
[Research Data Management programme](#)

Why is data management important for your research?
Managing research data is becoming increasingly important. Find out how you can benefit from managing your data effectively
[Why is data management important?](#)

DMP ONLINE
Data management planning
Guide on how to develop data management plans
[Data management planning](#)

Storage & backup solutions
Information on storing and backing up your data
[Storage & backup solutions](#)

DataShare Edinburgh
Sharing & publishing data
Find out about how to share and publish your data
[Sharing & publishing data](#)

Useful reading

- LERU
 - LERU Roadmap for Research Data
 - <http://www.leru.org/>

LERU ROADMAP FOR RESEARCH DATA

LERU RESEARCH DATA WORKING GROUP

LEAGUE OF EUROPEAN RESEARCH UNIVERSITIES

University of Amsterdam - Universitat de Barcelona - University of Cambridge - University of Edinburgh - University of Freiburg - Université de Genève - Universität Heidelberg - University of Helsinki - Universiteit Leiden - KU Leuven - Imperial College London - University College London - Lund University - University of Milan - Ludwig-Maximilians-Universität München - University of Oxford - Pierre & Marie Curie University - Université Paris-Sud - University of Strasbourg - Utrecht University - University of Zurich

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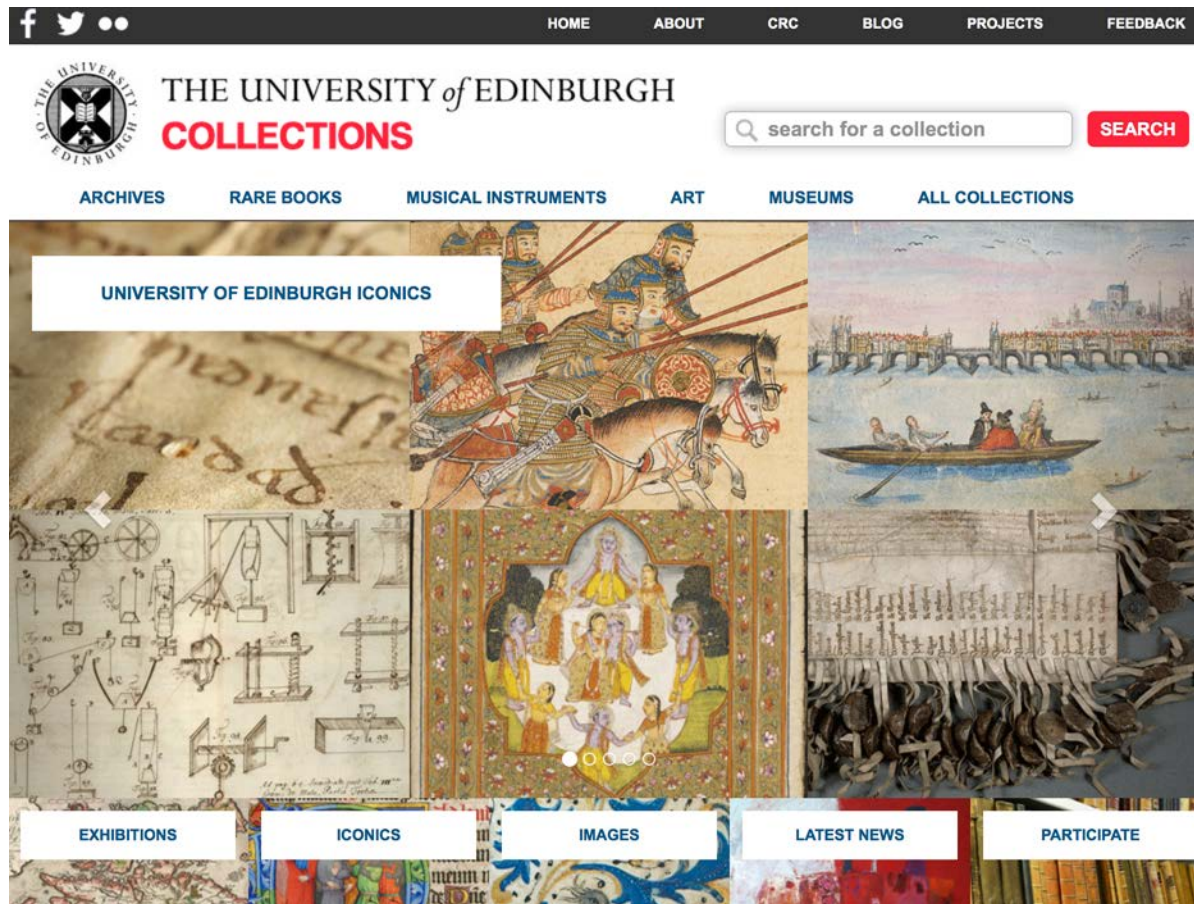
Research Library Support for Open Science

- Libraries curate significant collections which hold research potential
 1. Local special collections
 2. Subscription content



Special Collections

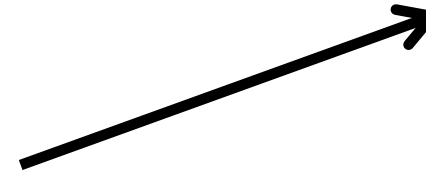
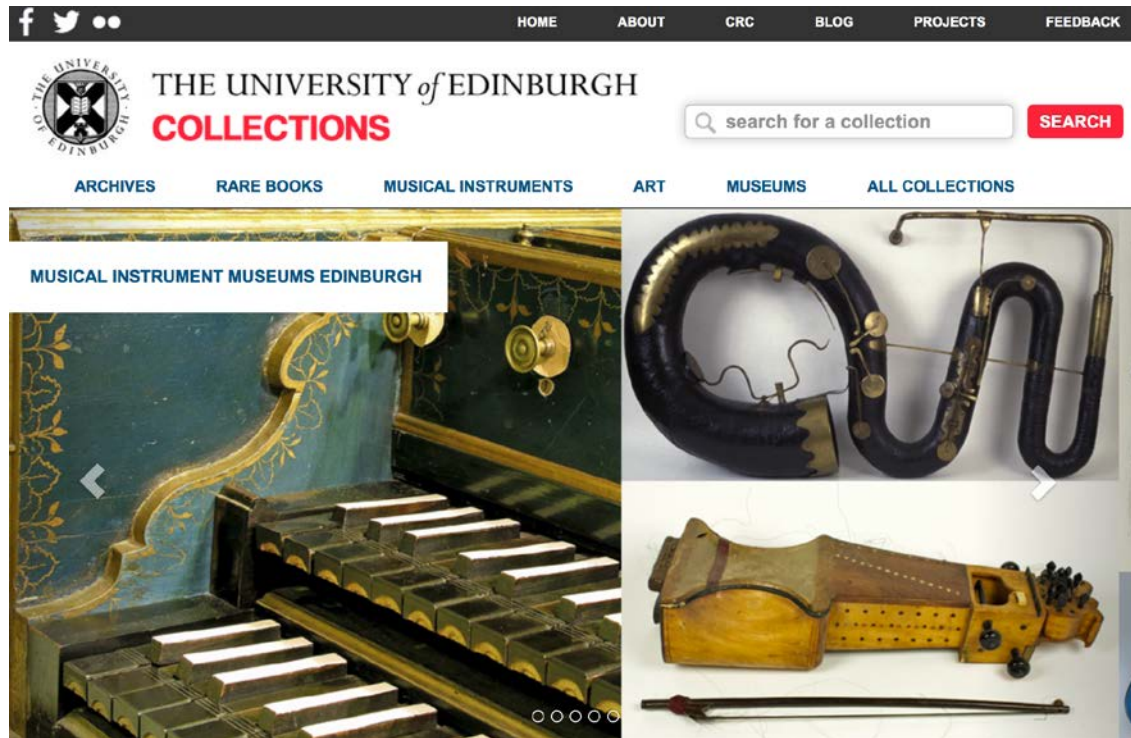
- Local special collections can be placed online, licensed for re-use



<http://collections.ed.ac.uk/>

Special Collections

- Special collections harvested and aggregated



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Research into learning

- Applying research in learning
- Open Educational Resources (OERs)
- “Making available a significant collection of unique learning materials...shared for the greater good, making a significant contribution to public engagement with learning, study and research”
- <http://open.ed.ac.uk/>

A VISION FOR OPEN EDUCATIONAL RESOURCES AT UNIVERSITY OF EDINBURGH

The sharing of open educational materials is in line not only with University of Edinburgh's mission but also with a global movement in which research-led institutions play a significant role. The proposed OER vision for University of Edinburgh has three strands, each building on our history of the Edinburgh Settlement, excellent education, research collections, enlightenment and civic mission.

FOR THE COMMON GOOD

Teaching and learning materials exchange to enrich the University and the sector.

To put in place the support frameworks to enable any member of University of Edinburgh to publish and share online as OER teaching and learning materials they have created as a routine part of their work at the University (e.g. handouts, teaching materials, lesson plans, recorded lectures, research seminar content & blended-learning content).

To support members of University of Edinburgh to find and use high quality teaching materials developed within and without the University.

EDINBURGH AT ITS BEST

Showcasing openly the highest quality learning and teaching.

To identify collections of high quality learning materials within each school, department and research institute to be published online for flexible use & made available to learners and teachers as open courseware (e.g. recorded high profile events, noteworthy lectures, MOOCs & DEI course content).

To enable the discovery of these materials in a way that ensures that our University's reputation is enhanced.

EDINBURGH'S TREASURES

Making available openly a significant collection of unique learning materials, promoting health and economic and cultural well-being.

To identify a number of major collections of interdisciplinary materials, archives, treasures & museum resources to be digitised, curated & shared for the greater good, making a significant contribution to public engagement with learning, study and research.

To put in place policy and infrastructure to ensure that these OER collections are sustainable and usable in the medium to longer term.

DISCUSSION

The expertise to deliver each of these strands exists within the University through partnership between Schools and Information Services. This vision builds upon work, custom and practice already in place within the University but offers an opportunity to take a strategic approach to publishing open educational resources at scale.

The delivery of this vision is contingent on several areas of activity. The University is well placed to adopt an open licensing approach to learning and teaching materials for which the copyright is already held within the University.

Information Services currently offer a limited copyright

advisory service to academic colleagues and students, with additional resourcing this service could be enriched to provide an OER service including training, staff development and guidance to support colleagues in making informed decisions about licensing options for their OER.

It is proposed that the service is resourced by IS for 2 years in the first instance. Once the support service is in place the 'Common Good' activity will be supported as part of business as usual through guidance and training.

MITIGATING RISK

Establishing a clear vision for OER at University of Edinburgh will mitigate the reputational risk which may follow as a result of colleagues referring to online learning materials as 'open' when they are available under closed or unclear licence.

DIVERSITY

OER contribute to sector-wide initiatives on openness, access, equality and diversity by enriching the knowledge commons and promoting sharing and reuse.

email: open.ed@ed.ac.uk

Releasing Subscription Content

- Libraries subscribe to significant amounts of subscription content
- UK Text and Data Mining (TDM) copyright exemption
 - More reform needed in the EU

What's changed?

The new copyright exception allows researchers to make copies of any copyright material for the purpose of computational analysis if they already have the right to read the work (that is, work that they have “lawful access” to). They will be able to do this without having to obtain additional permission to make these copies from the rights holder. This exception only permits the making of copies for the purpose of text and data mining for non-commercial research. Researchers will still have to buy subscriptions to access material; this could be from many sources including academic publishers.



Research Library Support for Open Science

- Libraries can support the transition:
 1. Facilitating Open Access publishing
 2. Support Research Data Management
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