

“Defining standards for the publication of research facilities and equipment data”

How did it evolve?

- Adrian Cox – University of Southampton
- Melanie King – Loughborough University
- Hamish McAlpine – University of Bath
- Gavin Burnell – University of Leeds

18th September 2012

Changing face of equipment funding

- RCUK/EPSRC Equipment guidelines
- EPSRC Funding to kick start sharing agenda
- Growth of regional consortia projects

University of Southampton Database

Research facilities and equipment sharing database

Research facilities and equipment sharing database Governance Collaboration



Research facilities and equipment sharing database > Shared facilities

Shared facilities

View All Site Content

Documents

Shared Documents

Lists

Calendar

Shared equipment

Shared facilities

Discussions

Team Discussion

Sites

People and Groups

Recycle Bin

ID1	Name1	Description	Service level	Taxonomy	Location - ID	Org Unit - ID	Building - ID	Faculty/Professional Service	Web address	Contact 1 - Name	Contact 1 - Phone
F0001	FACS Suite	Equipment at the facility includes the FACSscan, highly sensitive single laser non-sorting instrument, FACSCalibur with 488nm laser and diode laser 633nm incl. optical configuration electronics and software, FACSaria 3 laser analyser and a Laser Scanning Cytometer.	Fully serviced	Imaging	18 - SGH	FC - Infection, Inflammation and Immunity	9500 - South Academic Block	F5 - Faculty of Medicine	http://www.soton.ac.uk/research/sites/flow/instrumentation/	Carolann McGuire	442
F0002	Biomedical Imaging Unit	The Biomedical Imaging Unit provides facilities and research and diagnostic services in high quality and high resolution light and electron microscopy.	Technician assisted & training required	Imaging	18 - SGH	FC - Infection, Inflammation and Immunity	9500 - South Academic Block	F5 - Faculty of Medicine	http://www.soton.ac.uk/research/sites/biu/	Anton Page	442
F0003	CL3 Suite (CAT 3)	CAT 3 Laboratory suite for hazardous microbiological research. Full clearance and training required. (Facility/equipment hire is on a complete lab basis)	Technician assisted & training required		18 - SGH	FC - Infection, Inflammation and Immunity	9500 - South Academic Block	F5 - Faculty of Medicine	http://www.southampton.ac.uk/medicine/index.page?	Jenny Russell	442
F0004	Histochemistry Research Unit	The Unit has the facilities to process cells and tissue samples into a range of mediums including frozen, paraffin and resin for subsequent sectioning and staining by a variety of techniques. These methods include tinctorial staining for	Fully serviced		18 - SGH	FC - Infection, Inflammation and Immunity	9500 - South Academic Block	F5 - Faculty of Medicine	http://www.soton.ac.uk/research/sites/tru/	Susan Wilson	442

Open Data Homepage

5★ Data

Frequently Asked Questions

Apps

Data Catalogue

Places

Phonebook

Academic Programmes

Organisation

Research Facilities

Jargon

Points of Service

Products & Services

Bus Routes

SPARQL Endpoint

Feedback

Suggestions

Report a Problem

Register an App

University of Southampton » Open Data » Facilities » Facility: Nanomaterials Rapid Prototyping Facility

Share

Facility: Nanomaterials Rapid Prototyping Facility

<http://id.southampton.ac.uk/facility/F0041> ← This is the URI

Building: Physics
 Facility of: University of Southampton
 Facility of: Physics & Astronomy

The NanoMaterials Rapid Prototyping Facility is a semi-cleanroom environment, equipped for the fabrication and analysis of NanoMaterials. The facility is designed to allow prototype Nano-devices to be quickly built and tested and is a collaboration between physicists, chemists, engineers, material scientists and industrialists to combine the successes of their disciplines to create entirely new ways of building on the nano-scale.

Contact: Zondy Webber ☎ +442380593936 ✉ z.webber@soton.ac.uk

Equipment

Wentworth Laboratories Probe Station (Fa 6 Probe Station Package R32/6 (S/N 2930))

A manual 8inch wafer prober with a Leica GZ4 stereomicroscope. Local ID: PH/01713

Contact: Zondy Webber ☎ +442380593936 ✉ z.webber@soton.ac.uk

Coherent Ar Ion laser (Direct Write System)

Ar Ion Laser (458nm and other lines). Beam diameter 0.08 to 1.25mm. Mounted to direct write lithography system. Local ID: PH/1895

Contact: Zondy Webber ☎ +442380593936 ✉ z.webber@soton.ac.uk

Nisha Printing Co Offset Printer

Offset flexographic printer. Local ID: PH/01793

Contact: Zondy Webber ☎ +442380593936 ✉ z.webber@soton.ac.uk

Zeiss Confocal Microscope (Direct write system)

A Zeiss confocal microscope system which is also capable of UV writing of samples. (HeNe - 633nm, GcNe - 543nm, UV - 351nm, Arlon - 458nm, and other lines)



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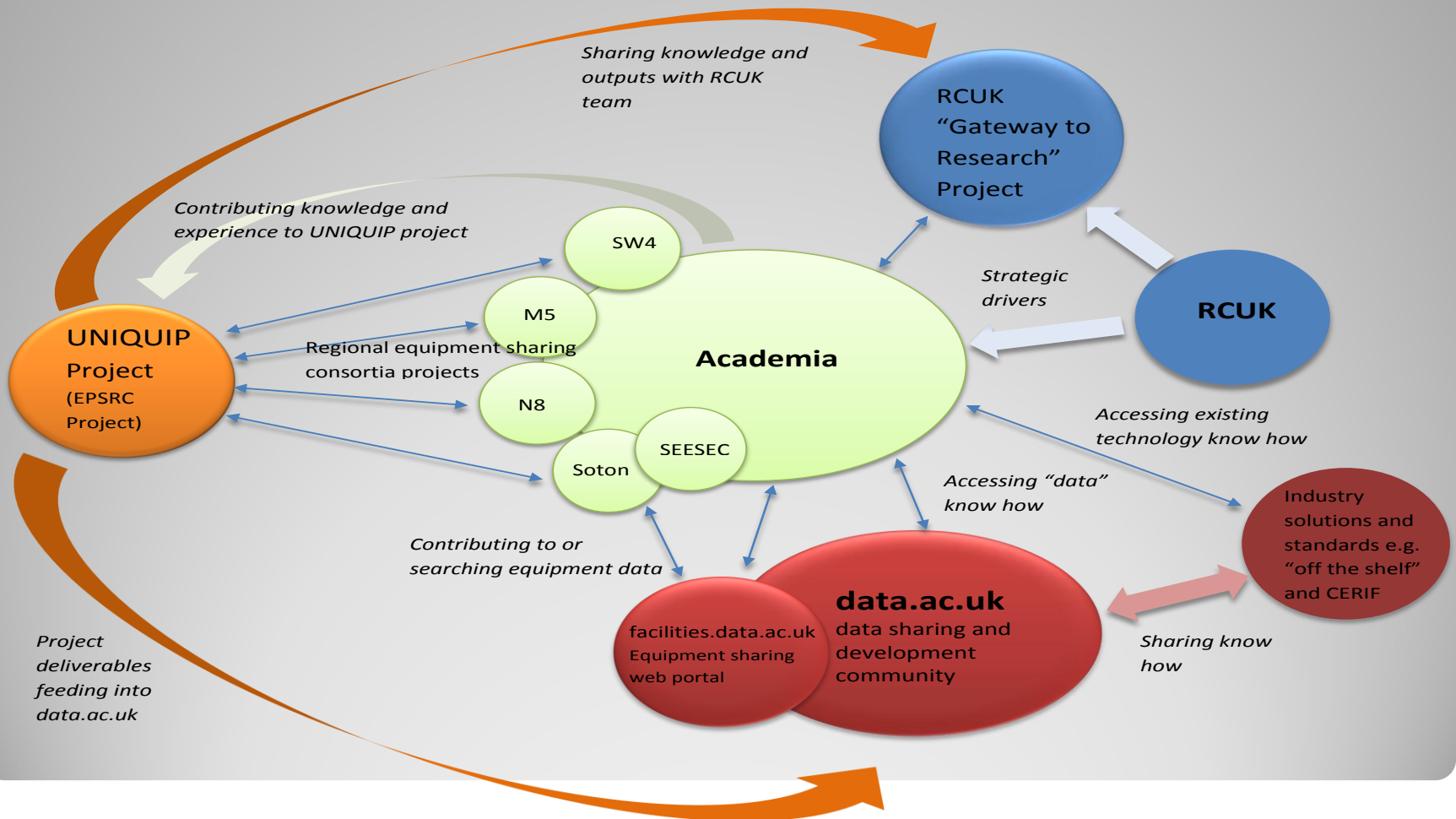
The early conversations:

- **How are we describing items** – The question of web semantics. What might we call our core data fields and are they the same?
- **How could we share data?** – If national database searching is to be achieved interoperability would be required. How could this be achieved?
- **Standardising extended descriptions** – Are we using any form of taxonomy or categorisation describing equipment group or techniques.

UNIQUIP Project aims:

- Facilitate discussion on standardisation
- Develop standardised guidelines for vocabularies
- Support technology development to enable sharing
- Enable early data sharing opportunities through wider engagement
- Aim to build a sustainable sharing network

Research data sharing landscape





“Proof of concept” for national equipment data aggregation portal

data.ac.uk

facilities.data.ac.uk: scanning


scanning

+ Refine Search

AxioObserver Z1 fully motorised research microscope including XY scanning - University of Cambridge

AxioObserver Z1 fully motorised research microscope including XY scanning

Contact: HEATH, Doctor Emma [+441223760248](tel:+441223760248) eh304@cam.ac.uk




CenterVue MAIA - University of Oxford

Assesses the function of the macula by providing measurements of macular sensitivity, fixation stability and the site of fixation. Incorporates a line scanning laser ophthalmoscope to capture confocal images of the retina.


Location: [John Radcliffe West Wing And Children's Hospital](#)

Contact: Carol Holder carol.holder@eye.ox.ac.uk



Clean Rooms - Integrated Photonics - University of Southampton

The Integrated Photonics Cleanroom is a 200m² Class 1000 facility with local areas of Class 100, designed for planar processing of a very wide range of materials. The prime purpose of this facility is to be able to take raw materials, ORC-made materials, or commercial materials and process them to realise photonic devices for use in applications from telecommunications to all-optical data processing and from biochemical sensing to the lab-on-a-chip. Polishing and scanning electron microscopy are available outside the cleanroom. The major equipment items are: Karl-Suss MA6 double-sided mask aligner, OPT PlasmaLab 400 Sputtering Machine, Jenbacher 600 Plus Gasifier for Beam Deposition (Fiber Edwards Auto 600 thermal evaporator, Edwards







Loughborough University: Equipment database

<http://equipment.lboro.ac.uk>

- **Jan 2008** – Proposal made, by Prof Rachel Thomson, for a Materials Research School Equipment Database to Loughborough's Engineering Centre for Excellence in Teaching and Learning (engCETL).
- **Feb 2008** – Work begins to develop the database and catalogue the materials research school equipment (MySQL and PHP web based system).
- **Dec 2008** – The database is piloted with key stakeholders. The system is improved and expanded in response to academic and technician feedback.
- **Sep 2009** – Official launch of the Equipment Database. Over 800 items catalogued, complete with photographs and numerous supporting documents.
- **Mar – Nov 2011** – JISC fund the open source Kit-Catalogue™ Project.
- **Nov 2011 – present** – Loughborough continue to build upon the Kit-Catalogue system and support a growing number of UK HEIs adopters.

Welcome Melanie King [administration](#) [login out](#)

Home Categories Departments **Manufacturer A - Z**

Home > Browse by department > Custom filters

Browse by department

Viewing items matching the following properties:

Department: Materials [x] Category: Electron Microscopy [x] [add an item](#)

Category...

Electron Microscopy [x]

Department...

Materials [x]

Manufacturer...

Carl Zeiss (Leo / Cambridge) (1)

Carl Zeiss (Leo) (1)


FEI (2)

JEOL (1)

Technique...

Scanning electron microscopy (2)


Transmission electron microscopy (2)



Carl Zeiss (Leo / Cambridge) Stereoscan 360 [edit](#)

The SEM uses electrons to image the surface of materials allowing both high magnification and good depth of field to be achieved.
[more details >](#)


Manufacturer: Carl Zeiss (Leo / Cambridge)
Technique: Scanning electron microscopy



FEI F20 Tecnai [edit](#)

Field emission gun transmission electron microscope
[more details >](#)


Manufacturer: FEI
Technique: Transmission electron microscopy



FEI Nova 600 Nanolab Dual Beam system [edit](#)

The Dual Beam FIB consists of a high resolution field emission electron column and gallium source ion column combined within the same instrument.
[more details >](#)


Manufacturer: FEI
Technique: Scanning electron microscopy



JEOL 2000FX [edit](#)

The TEM uses thin samples to examine internal microstructure at a resolution down to the sub-nanometre level. A combination of imaging, electron diffraction and EDX analysis allows detailed characterisation to be carried out.
[more details >](#)

Manufacturer: JEOL
Technique: Transmission electron microscopy





Scanning Electron Microscope [edit](#)

High resolution field emission gun scanning electron microscope (FEGSEM)
[more details >](#)

Manufacturer: Carl Zeiss (Leo)
Technique: Scanning electron microscopy

[Contact the Uniquip team](#)

This equipment database is powered by the KIT-Catalogue system (v 1.0.0).
KIT-Catalogue has been developed by Loughborough University and is licensed under the Open Source (GPLv3) license.

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Home Categories Departments **Manufacturer A - Z**

Home > Browse by department > Custom filters > FEI Nova 600 Nanolab Dual Beam system


FEI Nova 600 Nanolab Dual Beam system

[edit item](#)

MANUFACTURER FEI (manufacturer's website)

MODEL Nova 600 Nanolab Dual Beam system

ACRONYM FIB



Categories

Electron Microscopy (5)

Viability

This item is publicly visible.

[R+1](#) [Tweet](#)

Materials [edit item](#)

ACCESS LEVEL	Full Access
USER GROUP	Faculty
TRAINING	Training is required to use this item and we can arrange this if needed.

CUSTODIAN g.west@lboro.ac.uk

SITE Main Campus

BUILDING S Building

ROOM S.1.079

Description

The Dual Beam FIB consists of a high resolution field emission electron column and gallium source ion column combined within the same instrument. This allows milling of cross sections (typically 20 x 8 microns) through samples and subsequent imaging using either electron or ion.

Typical applications

- Cross sections through defects and the preparation of TEM samples from specific areas where this is impossible using conventional means. Features observed can be analysed in situ by EDX and EBSD.

Ancillary equipment

- EDAX PEGASUS, Energy-dispersive X-ray microanalysis (EDX) system.
- Ultra high speed HiVac, Electron backscattering diffraction (EBSD) camera.
- PATH ELPHY QUANTUM lithography package providing advanced nano-patterning/machining capabilities. The system is configured for use with both the electron and ion beams.
- High speed electrostatic beam blanker.
- OMI/PROBE micromanipulator.
- 3 Gas Injectors (Platinum, Insulator enhance etch (IEE) and Selective carbon etch (SCE)).
- Solid state retractable backscatter detector with low voltage capability.
- STEM detector with BF and DF modes.

Specification

Resolution @ optimum WD 1.1 nm @ 15 kV (TLD-SE) 2.5 nm @ 1 kV (TLD-SE) 3.5 nm @ 300V TLD-SE 5.5 nm @ 500 V TLD-BSE

Additional Files

Application Notes

- DualBeam and FIB capability applied to metals research
- DualBeam Milling and Deposition of Complex Structures
- Site Specific Three-dimensional Structural Analysis in Tissues and Cells
- Nanofabrication and rapid prototyping with DualBeam™ instruments

Specification

- Nova 600 Nanolab DualBeam™ SEM/FIB for Nanoscale Prototyping, Machining, Characterization, and Analysis of Structures below 100 nm

Additional Fields

RESEARCH SCHOOL Materials Research School

Last Updated: 14-06-2012

[Contact the Uniquip team](#)

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System features:

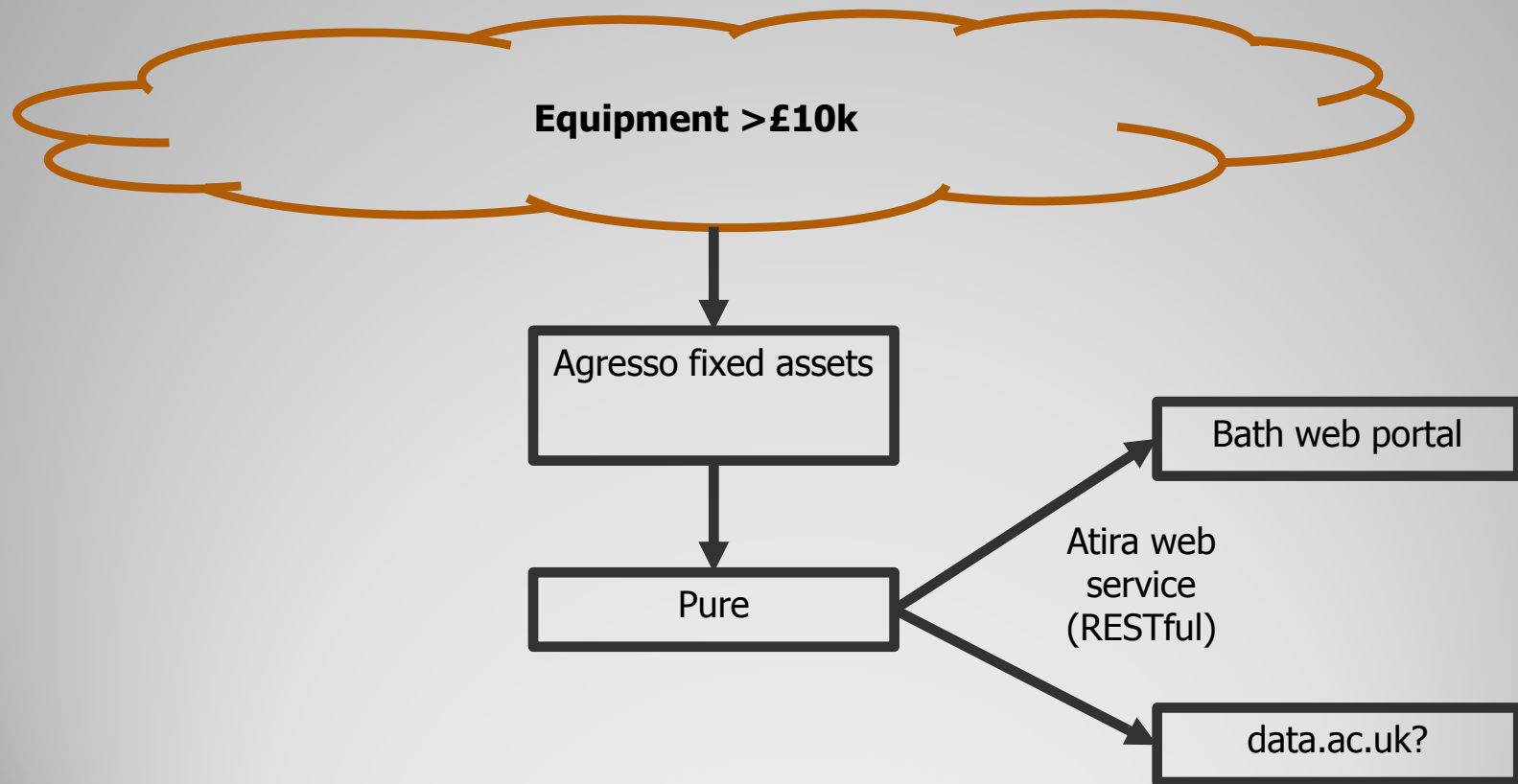
- Simply import and export equipment details from CSV spread-sheets.
- User friendly interface
- Add custom fields to satisfy specific institutional requirements (e.g. research schools, servicing dates etc.)
- Support for local configuration, styling and institutional logo changes to allow easy customisation of the software.
- Includes common authentication mechanisms by default. (Active Directory or Database)
- Open source implementation, so adopters are free to adapt and rewrite the code to satisfy any local considerations.
- Supports equipment classification using: CPV codes, free text categories, #tag groupings
- Community support from a growing number of Institutional adopters (~8+)



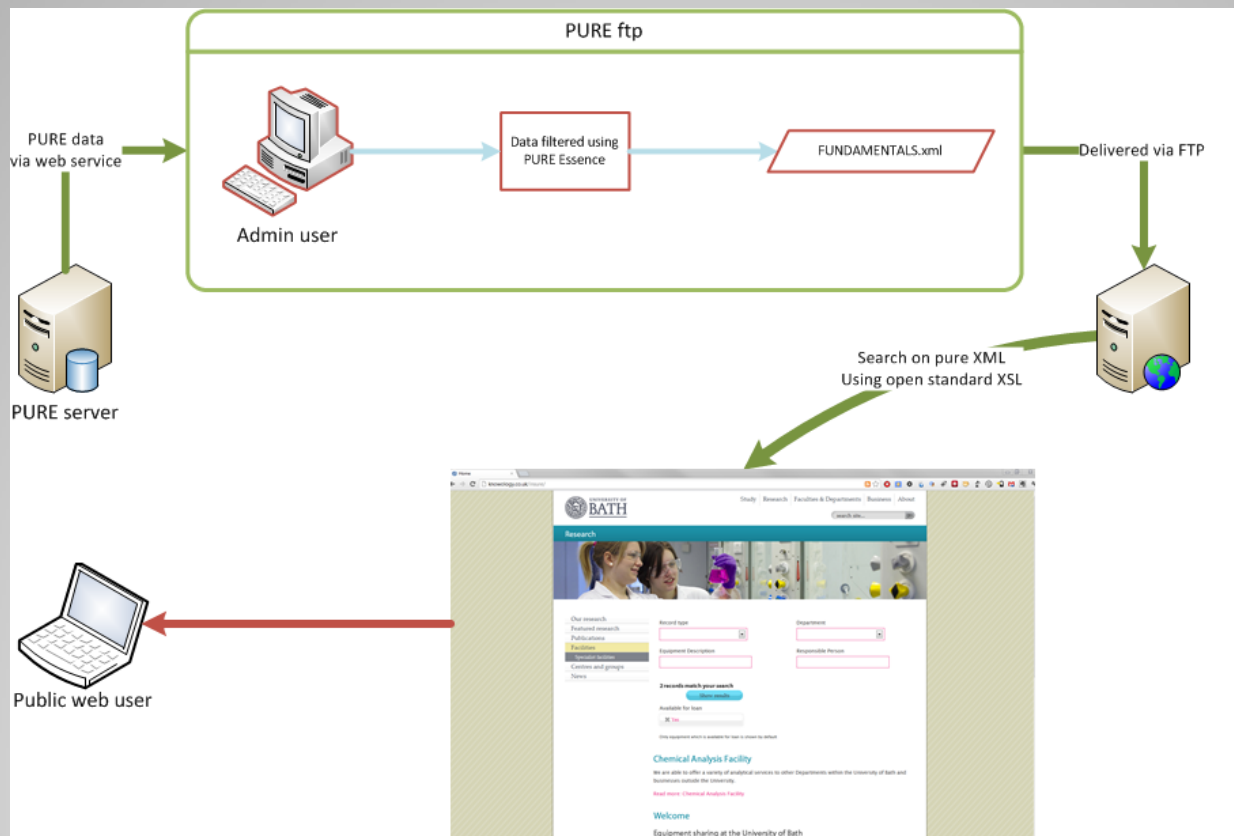
M5 Consortium Equipment Sharing

- Midlands consortium of research intensive universities; University of Birmingham, University of Leicester, Loughborough University, University of Nottingham, and the University of Warwick.
- Collaborating on equipment sharing both publically, and between the M5 institutions
- Working towards sharing of systems, expertise, policies and practice
- M5 working with Uniquip to benefit from community driven developments around equipment sharing initiatives.

University of Bath



University of Bath





Research



Our research

Featured research

Publications

Facilities

Specialist facilities

Centres and groups

News

Record type

Equipment Description

Department

Responsible Person

2 records match your search

Show results

Available for loan

Yes

Only equipment which is available for loan is shown by default

University of Bath

1. Not “yet another database”
2. Existing Pure Web Service
3. On-going support for Agresso & Pure at Bath
> sustainable
4. Capturing impacts and outputs from sharing?

University of Leeds – N8 Equipment database

- N8 Research Collaboration project “**Sharing for Excellence and Growth**”
 - *Cultural barriers to sharing*
 - **Technical needs** – *shared data schema, functional classification, online equipment inventories*
 - *Business/costing models*
 - *Regional strategic view*
- Internal need for equipment inventory to be visible
 - Historically a finance and purchase office system
 - Massive data accuracy and relevancy problems
 - Not a rich source of information – bare minimum of asset details

University of Leeds

- Develop a taxonomy that was relevant to researchers
- Engage with PI's, lab managers to cleanse data and enrich
- Develop an architecture to present refreshed inventory online – links to corporate management information system

- 
- A photograph of a cryostat, a piece of scientific equipment used for low-temperature measurements. It consists of a large, cylindrical cryostat with various cables and components attached. The background is slightly blurred, showing a laboratory setting.
- Academic Manger: G Burnell (g.burnell@leeds.ac.uk)
 - Technical Contact: Dr M. Ali (phyma@leeds.ac.uk)
 - Description: *An Oxford Instruments Integra cryostat with an 8T solenoid superconducting magnet equipped with a variable temperature inser...*
 - Homepage: <http://www.stoner.leeds.ac.uk/>
 - Attached Files: Risk Assessment, sample data

- Sample Measurement / Characterisation
 - Cryogenic
 - 1.4K (continuous flow)



Sign In

New Search

Alter Current Search

Results

Search

Oxford

AND "School of Physics and Astronomy

AND

Add Field

Clear

Search

Need Help ?

Taxonomy

APPLY

CANCEL

- Infrastructure ▲
- Large Scale Instruments ▲
- Materials Characterisation ▲
- Process Equipment - Biological ▲
- Process Equipment - Physical ▲
- Sample Measurement/Analysis ▼
- Acoustic ▲
- Bio-Medical ▲
- Cryogenic (Sample Measure Analysis) ▲
- Electronic ▲
- Field Deployable ▲
- Laser (Order) ▲
- Motion ▲
- Optical (Order) ▲
- Proteins / Nucleic Acids ▲

N8 Equipment database

- N8 Working to develop multi-institutional view of equipment inventories
- Build on existing standardisation of schema and taxonomy, develop common webservice standard to interrogate institutional inventories
- But UNIQUIP agenda vital to build systems beyond the regional silos.

Moving forwards....

- Establishing a common consensus
 - Publishing a core minimum data
 - Agreeing to publish openly
- Managing and promoting the standards
 - A role for UNIQUIP and data.ac.uk
- Generating the efficiencies
 - Establishing mechanisms to deliver the efficiencies



Thank you