

Logs, Blogs and Pods

Smart Electronic Laboratory Notebooks

e-Research Open Meeting 2009
Reading

Jeremy G. Frey
School of Chemistry
University of Southampton



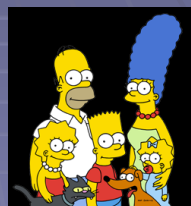
Talk

- Laboratory Notebooks
- Laboratory BlogBooks
- Instruments and Blogjects
- Semantic Blogs



“The internet wasn't created for mockery!
It was created so scientists from different
universities could share datasets....”

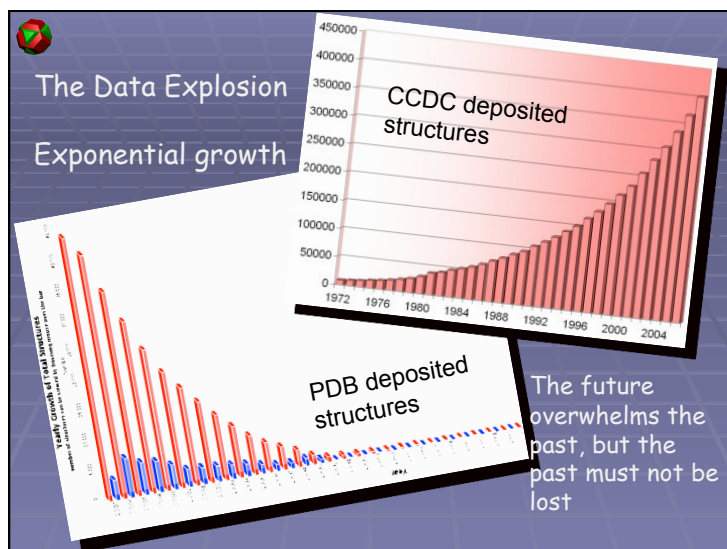
Simpson, H. *The Simpsons* (2005). Eds. Groening, M., Brooks, J.L. & Simon, S., Series 16, Episode 8, Original air date (US) 06-Feb-2005.
<http://www.tv.com/showid-146/enid-346864/>



The CombeChem Project

- 'End to End' linking
 - Data (life-)cycle
- Do things 'right' at the start
 - Make sure the metadata is of high quality
 - Record properly at source in Digital Form
- Extensive provenance
 - Publication@Source
- The Chemistry Lab
 - People & Machines working together





Chemists and programming

Many Chemists think that they can program!

You still use FORTRAN!!

What about that! His brain uses old vacuum tubes

If only I knew exactly how she did this experiments

I wish I had recorded things at the start the way I do now.....

I know all this supplementary information could be useful but will people really remember the format? Is it worth all the hassle?

I wish I could get the numbers from this graph - the pdf is not much use.

Typical laboratory conversations

Supervisors and Managers

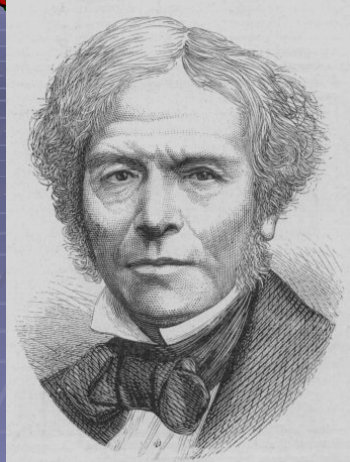
I am sure we collected that information a few years ago...

The details should be in her lab book.....

Can you read what it says here.....?

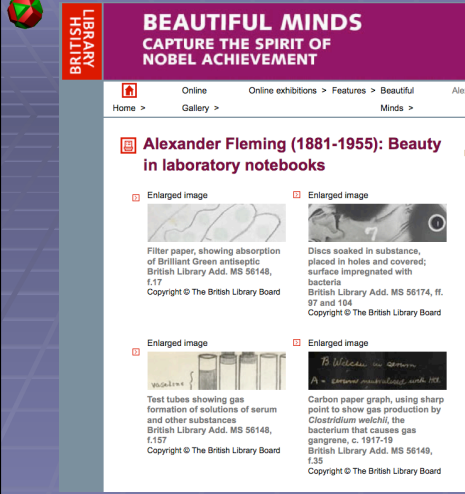
Can you find the files of data that were used to make the plot?

Some problems are due to the lack of information recorded at the time, others are due to loss of information over time.



Faraday's laboratory notebooks are also remarkable in the amount of detail that they give about the design and setting up of experiments, interspersed with comments about their outcome and thoughts of a more philosophical kind. All are couched in plain language, with many vivid phrases of delightful spontaneity....

Peter Day, 'The Philosopher's Tree: A Selection of Michael Faraday's Writings'



BEAUTIFUL MINDS
CAPTURE THE SPIRIT OF NOBEL ACHIEVEMENT

Online exhibitions > Features > Beautiful Minds >

Alexander Fleming (1881-1955): Beauty in laboratory notebooks


Enlarged image
Filter paper, showing absorption of Brilliant Green antiseptic
British Library Add. MS 56148, f.17
Copyright © The British Library Board

Enlarged image
Discs soaked in substance, placed in holes and covered; surface impregnated with bacteria
British Library Add. MS 56174, ff. 97 and 104
Copyright © The British Library Board

Enlarged image
Test tubes showing gas formation of solutions of serum and other substances
British Library Add. MS 56148, f.157
Copyright © The British Library Board

Enlarged image
Carbon paper graph, using sharp point to show gas production by *Clostridium welchii*, the bacterium that causes gas gangrene, c. 1917-19
British Library Add. MS 56148, f.35
Copyright © The British Library Board

Mixture of text, images, plans, data



ChemLab
The Chemistry 3/5 & 6 Laboratories

General Information
Instruments & Techniques
Chemistry 3/5 Experiments
Chemistry 6 Experiments

DARTMOUTH COLLEGE

Sample Write-up

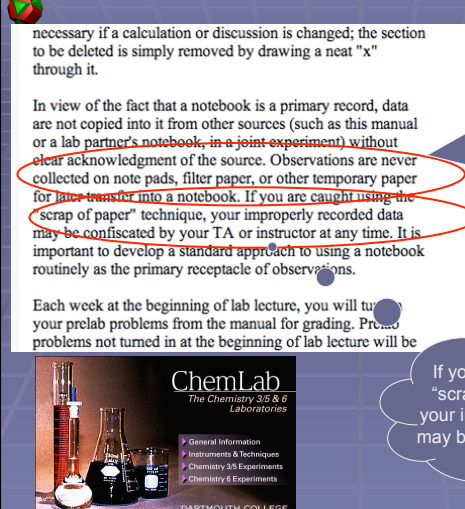
How to Keep a Notebook
One of the most useful skills you will acquire in the laboratory is the proper use of a laboratory notebook. Notebooks, or other formally kept records, are an essential tool in many careers, ranging from that of the research scientist to that of the practicing physician. The effort invested in developing good habits of notebook use will be amply repaid for students who pursue a future in the basic or applied sciences. Experience has indicated that skillful notebook use is developed by most students only through continued special effort—it does not come naturally. Some of the main principles of sound notebook use are outlined below.

The laboratory notebook is a permanent, documented, and primary record of laboratory observations. Therefore, your notebook will be a bound journal with pages that should be numbered in advance and never torn out. A notebook will be supplied to you before the first laboratory period. Write your name, the name of your TA, and your lab section on the cover of your notebook. All notebook entries must be in ink and clearly dated. No entry is ever erased or obliterated by pen or "white out". Changes are made by drawing a single line through an entry in such a way that it can still be read and placing the new entry nearby. If it is a primary datum that is changed, a brief explanation of the change should be entered (e.g. "balance drifted" or "reading error"). No explanation is necessary if a calculation or discussion is changed; the section to be deleted is simply removed by drawing a neat "x" through it.

Permanent, documented and primary record of laboratory observations

Safety
General Rules
Safety Equipment
Safety Hazards
Emergency Procedures
Emergency Treatments

Resources
Apostles
General FAQ
Uncertainty
ChemLab Home



necessary if a calculation or discussion is changed; the section to be deleted is simply removed by drawing a neat "x" through it.

In view of the fact that a notebook is a primary record, data are not copied into it from other sources (such as this manual or a lab partner's notebook, in a joint experiment) without clear acknowledgment of the source. Observations are never collected on note pads, filter paper, or other temporary paper for later transfer into a notebook. If you are caught using the "scrap of paper" technique, your improperly recorded data may be confiscated by your TA or instructor at any time. It is important to develop a standard approach to using a notebook routinely as the primary receptacle of observations.

Each week at the beginning of lab lecture, you will turn in your prelab problems from the manual for grading. Problems not turned in at the beginning of lab lecture will be

Observations are never collected on note pads, filter paper or other temporary paper for later transfer into a notebook

If you are caught using the "scrap of paper" technique, your improperly recorded data may be confiscated by your TA

ChemLab
The Chemistry 3/5 & 6 Laboratories

General Information
Instruments & Techniques
Chemistry 3/5 Experiments
Chemistry 6 Experiments

DARTMOUTH COLLEGE

Queen's University Belfast Research & Regional Services

Home | Events & News | Search | Quick Links

Lab Notebooks [Back to IPR main page](#)

Welcome to RRS
Research Policy Office
Postgraduate Office
Regional Office
Science Shop
Staff Contacts

Lab Notebooks & IP Protection
Researcher Tips & Guides
Laboratory Notebook Storage
Elect

Our Suggestions

- 1. Use the official QUB, permanently bound, hard-backed notebooks supplied**
 - Use the first pages as an index
- 2. Sign and Date your laboratory notebook.**
 - Number each lab notebook
 - Date the inside cover to show when you first started to use it.
 - Sign and date each entry yourself.
 - A non-inventor, "a reviewer" who is not free to disclose publicly and of the contents of the notebook, and who understands the invention should also sign and date the notebook periodically (weekly).
 - Alternatively each individual page can have a witness signature area at the bottom of the page. Again a responsible person who is not an inventor should sign and date each page.
 - Significant research advances, results and potential inventions should be signed and dated immediately.
 - Date all computer or other device printouts, email printouts, autoradiograms, photographs etc. and securely attach these to the notebook. Reference these in the description of the experiment and sign and date across the edge of the attachments in the notebook page.
 - Attach copies of dated invoices for special orders such as chemical reagents, oligonucleotides, peptides or services such as DNA sequencing to the notebook.

Date

Attach

Cut and Paste

3. Write entries in ink.

- Avoid blank gaps between entries
- Draw a line through any blank gaps to prevent subsequent entries.
- Cross out incorrect entries with a single line, leaving them eligible.
- Do not use correction fluid.
- Do not remove pages from your laboratory notebook

4. Do not modify prior entries at a later date.

- If data is omitted, enter this under a new date and cross reference it to a previous entry.

5. Use past tense to describe experiments which are actually performed.

- Set out future experiments theoretically at the time they were thought of and also record them at the time of carrying out the experiment.

6. Be consistent in nomenclature and explain abbreviations and special terms.

Provenance, Probity and Priority

Ontology and Folksonomy

Folksonomy (also known as collaborative tagging, social classification, social indexing, and social tagging)

7. Provide detailed descriptions.

- Outline new experiments, hypotheses.
- Discuss experimental design, operation conditions and controls.
- Include materials and methods (or provide detailed references).
- Include results whether successful or not.
- State conclusions from experiment or data.

8. State reasons for not working on a project for any period of time.

9. Include details of discussions and suggestions from collaborators, lab meetings or others.

- Include the names of those making suggestions, as this may be important in determining inventorship or ownership of any Intellectual property produced.

10. Detail any disclosures of the technology.

- publications,
- presentations,
- private conversations,
- electronic communications
- use - if that use would enable someone to recreate the invention.

Discussions

11. It is worth remembering, a research notebook should present a diary not a data repository.

- Record your thoughts, ideas and theories, they may prove invaluable at some future date.

BUT – the data needs to be recorded somewhere! The data only lives if connected to the laboratory notebook to provide the context. This link while essential is often fragile.

VERA

Electronic Laboratory Notebooks

Welcome to the VERA Project

Click For News...

Final Figures for the Digital pens 2008
August 19th, 2008

Drumroll please....

Team Chris - 96%

BAPCO Journal

Information management for civil contingency responders.

Archives Enter your search criteria

EDITORIAL CONTENT | ADVERTISING | CONTACTS AND SERVICES | BACK ISSUES

Back Issues » 2007 » May

APD launch police e-notebook at BAPCO 2007

Published: 24 April, 2007

April 25th 2007 - Mobile information specialist, APD Communications today announced the launch of APD Pronto, a product designed to remove paperwork from police processes and give officers greater access to police resources whilst out on the beat...

SEPTEMBER 9, 2006

the ONION
America's Funniest News Source

Dropping Sept 18

HOME VIDEO SPORTS RADIO ELECTIONS OUR DUMB WORLD

SEARCH

AT THE AV CLUB: I SEE YOU 10

College Senior Hopes To Turn Love Of meta Data Entry Into Career

MARCH 10, 2007 | ISSUE 43-11

BETHESDA, MD--As she prepares to enter the "dog eat-dog" world this summer, computer applications major Lisa Mich Monday that she is skeptical she'll be able to parlay her lifelong passion for data entry into gainful employment.

ARTICLE TOOLS

ENLARGE IMAGE

"I know when I do work with computers I'd be facing an ugly after graduation," Mich, a senior at University of Maryland, said. "I reentered a life Excel spreadsheet when you love an archiving information as much as I do, you will save the 'bored' to her self to follow her dream."

He is charged with expressing contempt for meta-data

COSHH

Leverage off things we already have to do

COSHH ASSESSMENT FORM

SUBSTANCE NAME	PHYSICAL FORM	QUANTITY	NATURE OF HAZARD
Water	Liquid	1000ml	None
Butane	Solid	<20g	Flammable
Carbon	Solid (pow)	<1g	Respiratory (inhalation), skin irritation
Water	Liquid	<100ml	None

NATURE OF PROCESS

Liquid carbonization of coffee, followed by combustion with water to produce a sweet circle

CONTROL MEASURES REQUIRED

Use of a fume hood and eye protection. No specific measures required.

"We have a cunning plan"

To Do List

PLAN

RECORD

Ingredient List

Ingredient	Quantity	Notes
Disodium phosphate	10g	Added to water
Butane	10g	Added to water
Carbon	10g	Added to water

Process Record

1. Add disodium phosphate to water.

2. Add butane to water.

3. Add carbon to water.

4. Heat at reflux for 1.5 hours.

5. Cool and add 10% NaOH.

6. Heat at reflux and complete.

7. Cool and add water (30ml).

8. Extract with DCM (2x10ml).

9. Combine organic, dry over MgSO4 & filter.

10. Remove solvent in vacuum.

11. Fuse compound to solid & column in ether/petrol.

Observation Types

- Weight: grams
- Volume: ml, drops
- Temperature: °C
- Time: min, sec

Future Questions

- Whether to have many subdivisions of processes or fewer with annotations.
- How to depict destructive processes.
- How to depict taking lots of samples.
- What is the observation/process boundary? e.g. NMR scan.

Contributor

30 January 2008

gsl, tom, gms

Ingredient List

Fluorinated biphenyl	0.9 g	
Br11OCB	1.59 g	
Potassium Carbonate	2.07 g	
Butanone	40 ml	

Dissolve 4-fluorinated biphenyl in butanone

Add K₂CO₃ powder

Heat at reflux for 1.5 hours

Simple Interface

Smart Tea Project - User Centred Design, Design by Analogy to ensure the correct information is captured simply and easily.

The Two Interfaces

moreTea

Welcome

1. Sign Up and Log In

2. Create and Plan

3. Record and Observe

4. Review and Write up

moreTea Lab Tool [CN=Andrew Bailey, OU=Chem...]

Summary Measure Observe

Description

Preparation of ester using 2-pyridyl methanol and 1,8-naphthyridine-2,7-dicarbonyl dichloride

Status

4 of 4 materials have been measured.
6 of 7 steps have been completed.

Planning and Review

Implementation

Procedure

N,N'-bis(pyridin-2-ylmethyl)-1,8-naphthyridine-2,7-dicarboxamide

Materials

59.5 ml Dichloromethane

1.31 ml Triethylamine

1.1 g 1,8-Naphthyridine-2,7-dicarbonyl dichloride

0.97 ml 2-aminomethylpyridine

Add material

Safety

1,8-Naphthyridine-2,7-dicarbonyl dichloride

Not Known, Treat as toxic

2-aminomethylpyridine

Harmful in contact with skin and if swallowed. Causes burns. Corrosive

1.644g/mL (2.2 eq) = 1.025g = 0.977 mL

Dichloromethane

R40 Limited evidence of a carcinogenic effect. COSHH form checked

Triethylamine

R11 Highly flammable. R20/212 Harmful by inhalation. In contact with skin and if swallowed. Causes severe burns. (0.73 g/mL, 101.2 g/mol)

Procedure

1. The 1,8-Naphthyridine-2,7-dicarbonyl dichloride weighed out and placed in a round bottom flask
2. To this still dried Dichloromethane was added and the flask placed above a magnetic stirrer plate.
3. 2-(aminomethyl)pyridine is added dropwise via a needle and syringe
4. Following this the triethylamine was added dropwise
5. The reaction was left to stir overnight and was monitored by TLC
6. Once the TLC showed the completion of the reaction it was poured into 50 mL of water
7. The Organic layer was retained and was washed with further water (2 x 50 mL)
8. The organic layer was then washed with 50 mL of brine and the organic was then reduced in vacuo
9. The solid residue was then recrystallised from a DCM/diethyl ether mixed solvent system
10. The product was characterised
- 11.

Into the Lab!

moreTea Lab Tool [CN=Andrew Bailey, OU=Chem...]

N,N'-bis(pyridin-2-ylmethyl)-1,8-naphthyridine-2,7-dicarbonyl dichloride

Summary Measure Observe

Description

A Preparation of N,N'-bis(pyridin-2-ylmethyl)-1,8-naphthyridine-2,7-dicarboxamide

Status

0 of 4 materials have been measured.
0 of 10 steps have been completed.

moreTea Lab Tool [CN=Andrew Bailey, OU=Chem...]

N,N'-bis(pyridin-2-ylmethyl)-1,8-naphthyridine-2,7-dicarbonyl dichloride

Summary Measure Observe

Materials

1,8-Naphthyridine-2,7-dicarbonyl dichloride

2-(aminomethyl)pyridine

Dichloromethane

Triethylamine

Selected Material - 1,8-Naphthyridine-2,7-dicarbonyl dichloride

Atomic Weight

255.1

COSHH Information

Not Known, Treat as toxic

Amount

Required

1.1 g

Used

1.1483 g

Record Amount

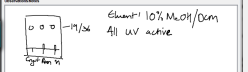
Into the Lab!

moreTea Lab Tool [CN=Andrew Bailey, OU=Chem] Sign Out

Summary **Measure** **Observe**

Description
A Preparation of
N,N'-bis(pyridin-2-ylmethyl)-1,8-naphthyridine-2,7-dicarboxamide

Status
0 of 4 materials have been measured.
0 of 10 steps have been completed.

Chemical Structure

Eluent: 10% MeOH/DCM
All UV active

moreTea Lab Tool [CN=Andrew Bailey, OU=Chem] Sign Out

Summary **Measure** **Observe**

Procedure - Step 7 of 10

Instructions
The Organic layer was retained and was washed with further water (2 x 50 mL)

Observations/Notes
This drew a little more colour off the organic layer and left it slightly cloudy and yellow

Draw **Write**

Next step >>

N,N'-bis(pyridin-2-ylmethyl)-1,8-naphthyridine-2,7-dicarboxamide

ap512055 (In Progress)

A Preparation of N,N'-bis(pyridin-2-ylmethyl)-1,8-naphthyridine-2,7-dicarboxamide

Materials (4 of 4 measured)

50.0 ml Dichloromethane (50.0 ml used)
1.31 ml Triethylamine (1.3 ml used)
1.1 g 1,8-Naphthyridine-2,7-dicarbonyl dichloride (1.1483 g used)
0.97 ml 2-aminomethylpyridine (1.0 ml used)

Add material

Safety
1,8-Naphthyridine-2,7-dicarbonyl dichloride
Not known. Treat as toxic
2-aminomethylpyridine
Harmful in contact with skin and if swallowed. Causes burns. Density = 1.0481g/ml, (2.2 eq = 1.025g = 0.977 mL)
Dichloromethane
R 40 Limited evidence of a carcinogenic effect. COSH-H form checked
Triethylamine
R 11 Highly flammable R 202/222 Harmful by inhalation, in contact with skin and if swallowed. R 35 Causes severe burns. (0.73 g/ml, 101.2 g/mol)

Procedure (9 of 10 steps complete)

- The 1,8-Naphthyridine-2,7-dicarbonyl dichloride weighed out and placed in a round bottom flask
- To this still dissolved Dichloromethane was added and the flask placed above a magnetic stirrer plate.
- 2-aminomethylpyridine is added dropwise via a needle and syringe
- Following this the triethylamine was added dropwise
- The reaction was left to stir overnight and was monitored by TLC
- Once the TLC showed the completion of the reaction it was poured into 50 mL of water
- The Organic layer was retained and was washed with further water (2 x 50 mL)
- The organic layer was then washed with 50 mL of brine and the organic was then reduced in vacuo
- The solid residue was then recrystallised from a DCM/diethylether mixed solvent system
- The product was characterised

Add Step

Handwritten Notes:

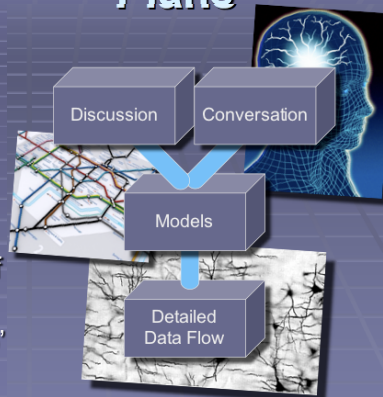
1,8-Naphthyridine-2,7-dicarbonyl dichloride (1.1g, 4.3mmol) was dissolved in DCM (50mL) in a round bottom flask.

To this 2-aminomethylpyridine (0.97mL, 9.9mmol) was added to the reaction mixture by needle/syringe. Following this, triethylamine (1.31mL, 9.9mmol) was added dropwise.

The reaction was then left to stir overnight and when TLC before being worked up. Proceeded work-up.


Plans

- Plans in advance are useful
- This is the way things are supposed to be done
- The Plan provides a digital context so increases the value of planning
- Key to our 'Smart Lab' approach....
- But is it the best way?



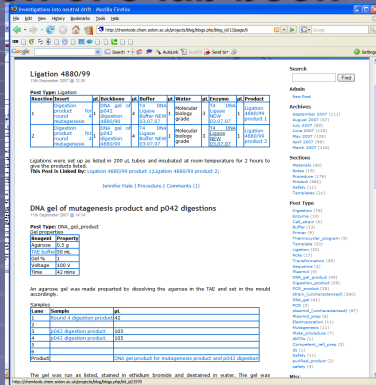
Laboratory "Blogs"

- Laboratory notebook is a Blog
- Encourage and facilitate collaboration
- Flexible
- Need a data repositories behind the Blog
 - R4L
 - E-Bank



Implementation of e-lab book

- Blog based format
- Purpose built engine
- Fully flexible system with arbitrary metadata
- Full record of changes (not currently easily accessible)

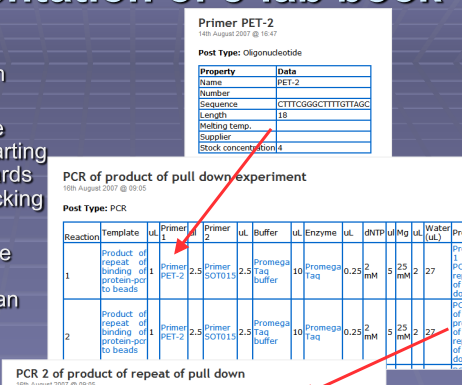


<http://chemtools.chem.soton.ac.uk/projects/blog/> "Bio Blogs"

<http://blogs.openwetware.org/scienceintheopen> Discussion

Implementation of e-lab book

- One post, one item approach
- Procedures can be tracked back to starting materials (or forwards to products) by clicking through
- Aim to ultimately be interpretable by machine and human



Primer PET-2
10th August 2007 @ 14:47

Post Type: Oligonucleotide

Property	Data
Name	PET-2
Number	
Sequence	CTTTCGGGCTTTTGTAGC
Length	18
Melting Temp.	
Supplier	
Stock concentration	4

PCR of product of pull down experiment
10th August 2007 @ 15:05

Post Type: PCR

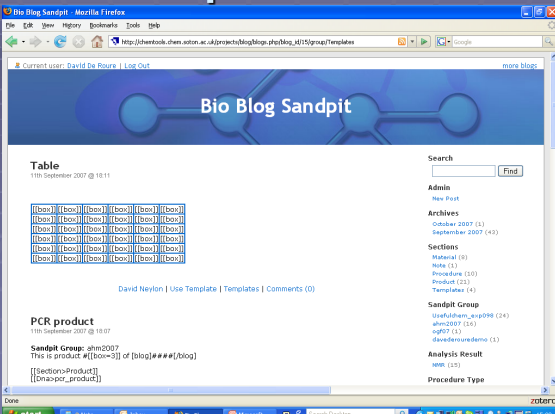
Reaction	Template	Primer 1	Primer 2	Buffer	Enzyme	dNTP	Mg	Water	Product
1	Product of repeat of binding of protein-por to beads	Primer PET-2	Primer SOT15	Promega Tag buffer	Promega Taq	0.25 mM	2 mM	27 µL	Product of PCR of repeat of pull down
2	Product of repeat of binding of protein-por to beads	Primer PET-2	Primer SOT15	Promega Tag buffer	Promega Taq	0.25 mM	2 mM	27 µL	Product of PCR of repeat of pull down

PCR 2 of product of repeat of pull down
10th August 2007 @ 15:05

Post Type: DNA PCR product
This is the product of Reaction 2 of PCR Template
This Post is Linked By: PCR Template; Electrophoresis of PCR of repeat pull down experiment;

David Nevelon | Edit Post | Product | Comments (0)

Templates



Bio Blog Sandpit

Table
10th September 2007 @ 10:11

Search

Admin
New Post

Archives
October 2007 (1)
September 2007 (43)

Sections
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Procedure (10)
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Sandpit Group
User:ahm2007 (24)
ahm2007 (14)
ag807 (1)

Analysis Result
with (1)


Procedure Type

David Nevelon | Use Template | Templates | Comments (0)

PCR product
10th September 2007 @ 10:07

Sandpit Group: ahm2007
This is product #([bow=3]) of [blog###[blog]]

[Section:Product]
[Material:Product]



Transformation of plasmic BW25141 by electroporation
10th September 2007 @ 10:11

Transformations were set up according to the instructions in the plasmid manual and SOC media were allowed to come to room temperature.

Plasmid BW25141, plasmid pGEM12/06, were added to the cells.

Cells were electroporated at 1.75 kV, added and the transformation efficiency was determined at 12 °C for one hour and incubated at 37 °C overnight.

Test digestions to check the activity of two batches of EcoRI and NcoI

Reaction	Template	Primer 1	Primer 2	Buffer	Enzyme	dNTP	Mg	Water	Product
1	Product of repeat of binding of protein-por to beads	Primer PET-2	Primer SOT15	Promega Tag buffer	Promega Taq	0.25 mM	2 mM	27 µL	Product of PCR of repeat of pull down
2	Product of repeat of binding of protein-por to beads	Primer PET-2	Primer SOT15	Promega Tag buffer	Promega Taq	0.25 mM	2 mM	27 µL	Product of PCR of repeat of pull down

LIVECOP LINK

<TITLE>album09 -
<SIZE_X>1300</SIZE_X>
<SIZE_Y>1026</SIZE_Y>
<THUMB_SRC>http://imgstore.chem.soton.ac.uk/album/album09/1rh4880_19.competent.transformation.from.ligation.thumb.jpg/</THUMB_SRC>
<PREVIEW_SRC>http://imgstore.chem.soton.ac.uk/album/album09/1rh4880_19.competent.transformation.from.ligation.thumb.jpg/</PREVIEW_SRC>
<PICTURE_URL>http://imgstore.chem.soton.ac.uk/album/album09/1rh4880_19.competent.transformation.from.ligation.thumb.jpg/</PICTURE_URL>
</METADATA>

Link to objects

This is a repeat of the FP analysis from earlier in the day. It was run several times while the samples warmed up. seem to have settled down reasonably well.

David Newell | Process

Comments

Re: Repeat of FP analysis of Tcs and GFP-Ter conjugate

The data in the last few sheets will fit reasonably well to a simple binding isotherm. The actual values will not be terribly meaningful as there is an excess of unlabelled DNA in the reaction along with a significant amount of unlabelled GFP. This leads to the small change in FP.

Comment this post

Title: Re: Repeat of FP analysis of Tcs and GFP-Ter conjugate

Text:

Submit

Issues

- The Physical World
- Safety documentation
- Patent/IP – sign-off
- Trust
- Will computers survive in the laboratory?

Remember we do have a physical world to keep in sync

Time Line View

Journal publication

ChemTools

Management

provided by the Frey Group

Test Data

Grant Applications

Analysis

RESULTS!

Conference reports

Xray Blog

1. Gas cell pressures

2. Response to referees:

3. CLEO 08 technical digest

4. CLEO 2008 notes

5. Harmonic propagation

6. Gas pressures and flow

7. Final Amendments to Paper

8. HHG Special Issue

9. HHG in the capillary, data

10. Conference

11. K-ray focusing, and the

12. Physics Signposting List

13. Coated photodiodes

14. W(z) of fibre laser and

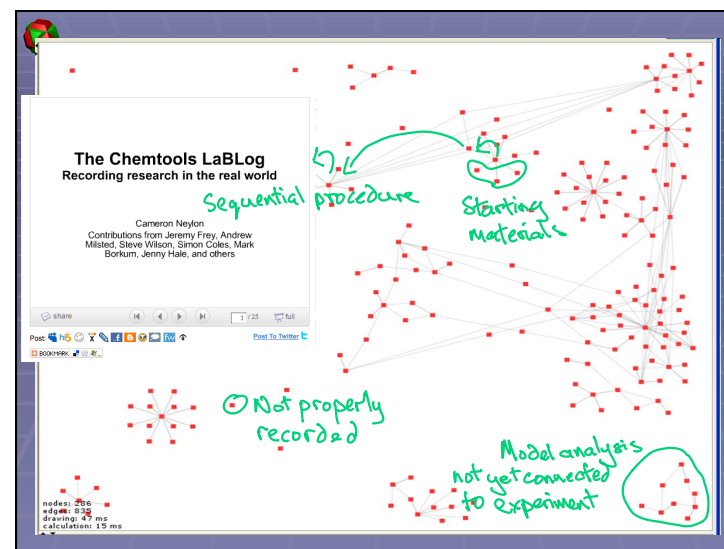
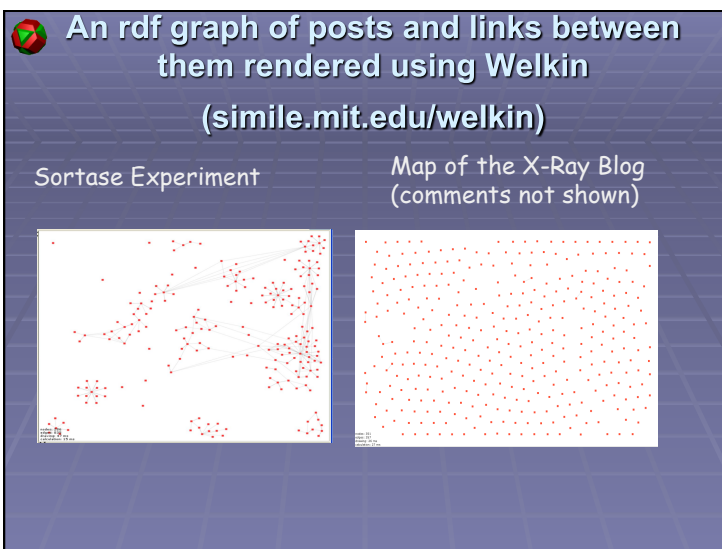
15. Capillary alignment


16. Dates for Group Meetings

17. JPhysB Final decision

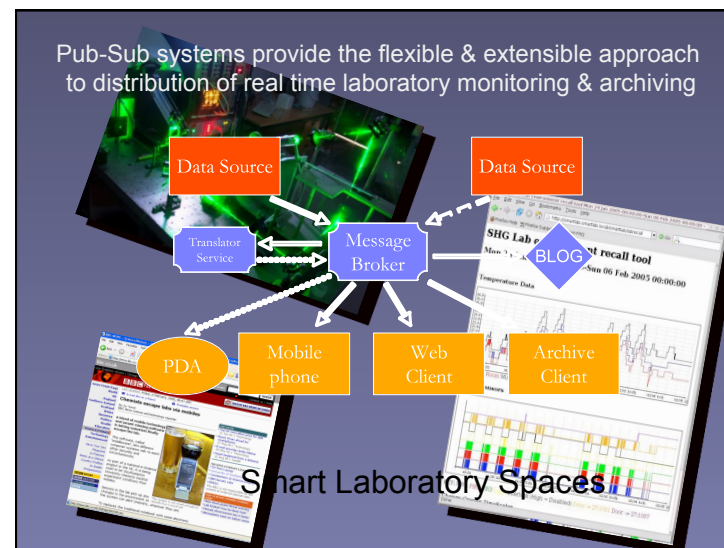
18. Baffling test for fiber la

19. First analysis from



 **Environment**

- Automatically record as much of the laboratory environment as possible
- Blog for the day





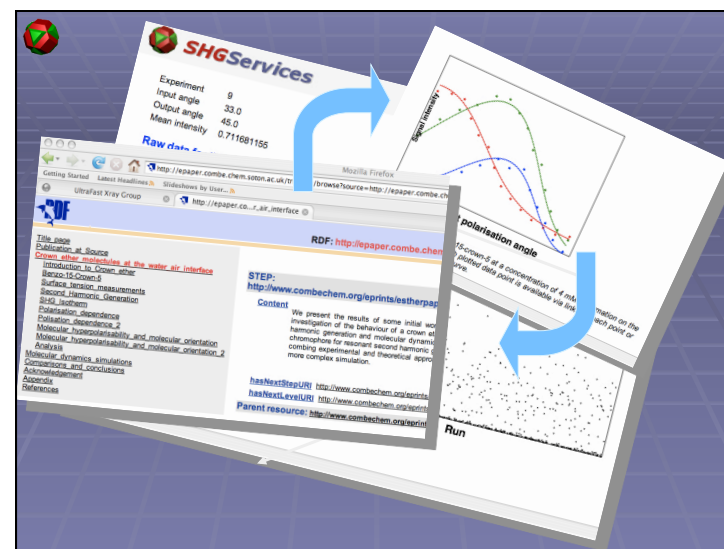
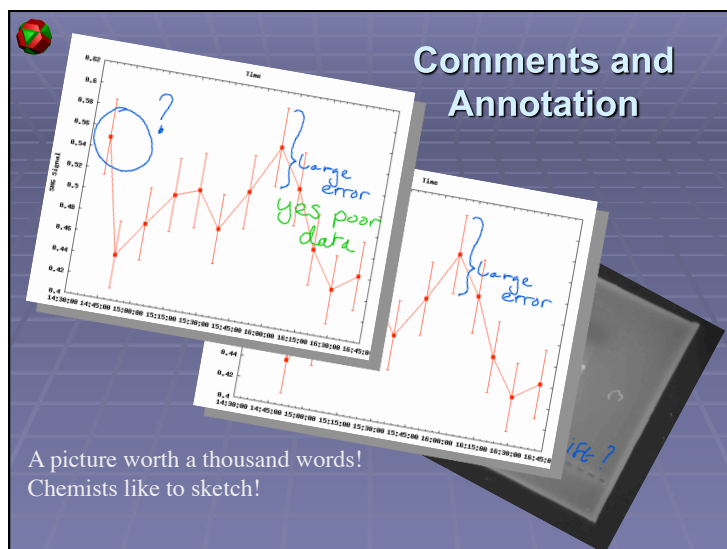
Blog-jects

- Equipment become first class members of the web
- Interacts well with Pub-Sub as items are attached to topics, topics relate the Bog items
- With automation this evolves to a two-way communication
- Everything has a network connection – research equipment will catch up with the fridge & other commodity goods

Blog-jects

- Equipment become first class members of the web
- Interacts well with Pub-Sub as items are attached to topics, topics relate the Bog items
- With automation this evolves to a two-way communication
- Live Copy essential

Lab environment data and experimental output linked



Can we have both the web 2.0 Blog style and the Semantics of the ELN?

YES!

Blog³ Log In | Sign Up

Home Users Projects **Blogs** Namespaces Tags

Blogs

Blog³ currently has 1 blog

Name	Owner	Project	Created
Frey Blog A blog for the Frey Group	Frey Group jgf	Non-linear laser spectroscopy	about 1 month ago

Not logged in?

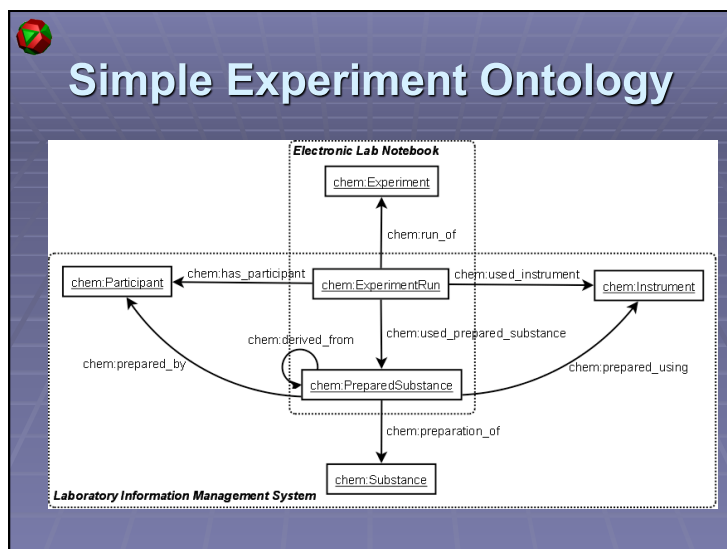
If you already have an account, [click here to login](#).

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Navigation

[Back to Home](#)

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Frey Blog

Testing the new microscope

Category: Miscellaneous
Entity: exp:ExperimentRun
Tags: testing, microscope, usb

1 decided to conduct a simple experiment to test the new microscope:
1. Plug the microscope into my-computer the USB interface
2. Take some pictures
3. Look at them
Check out the pictures (attached?)

Created: 2009-05-04 15:01:40 UTC (about 1 month ago)
Last Edited: 2009-05-04 20:36:12 UTC (about 1 month ago)

Attachments (2)

- Eyejack** (jpeg/png (image/png))
Uploaded: 2009-05-04 15:12:23 UTC (about 1 month ago)
[Download] [Permalink]
- Paper clip** (jpeg/png (image/png))
Uploaded: 2009-05-04 15:14:03 UTC (about 1 month ago)
[Download] [Permalink]

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Testing the new micros...
Editor: jgf

Frey Blog Search

View as RDF
Read Summary
Browse Posts
Browse Categories
Browse Permissions
Project: Frey Group
Owner: jgf

Latest Posts
Environment Readings
Requisition #1234 - Lithium...

Requisition #1234 - Lithium...
Jeremy Frey
InChI=1/Li.Nb.3O/q+1;:::-1/...
Testing the new microscope
AnMo Dino-Lite AM4132T
Mark Borkum
Welcome to the Frey Blog!

Categories
AutoBlog (1)
Miscellaneous (3)
People (2)
Purchases (1)
Substances (1)

Tags
labjack (1)
microscope (2)
readings (1)
sigma-aldrich (1)
testing (1)
usb (2)

Entities

Assertions (2)

exp:hasParticipant
Mark Borkum (Frey Blog)
Created: 2009-05-04 15:11:46 UTC (about 1 month ago)
Last Updated: 2009-05-04 15:12:47 UTC (about 1 month ago)
[permanis]

exp:hasParticipant
Jeremy Frey (Frey Blog)
Created: 2009-05-04 19:05:41 UTC (about 1 month ago)
Last Updated: 2009-05-04 19:05:41 UTC (about 1 month ago)
[permanis]

exp:usedInstrument
AnMo Dino-Lite AM4132T (Frey Blog)
Created: 2009-05-04 15:12:18 UTC (about 1 month ago)
Last Updated: 2009-05-04 15:12:56 UTC (about 1 month ago)
[permanis]

Requisition #1234 - Lithium...
Jeremy Frey
InChI=1/Li.Nb.3O/q+1;:::-1/...
Testing the new microscope
AnMo Dino-Lite AM4132T
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Categories
AutoBlog (1)
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Substances (1)

Tags
labjack (1)
microscope (2)
readings (1)
sigma-aldrich (1)
testing (1)
usb (2)

Entities

Relationships (Source)
exp:ExperimentRun (1)
exp:Instrument (1)
exp:Participant (2)
exp:PreparedSubstance (1)
exp:Substance (1)
news:Announcement (1)
news:Event (1)

Relationships (Sink)
exp:hasParticipant (2)
exp:preparationOf (1)
exp:preparedBy (1)
exp:usedInstrument (1)

Archives
May 2009 (8)

Navigation
Back to Posts
Back to Frey Blog
Back to Blogs
Back to Home

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Blog³ Log In / Sign Up

Home Users Projects Blogs Namespaces Tags

Frey Blog

Created: 2009-05-04 14:12:52 UTC (about 1 month ago)
Last Edited: 2009-05-18 18:39:50 UTC (28 days ago)

Filtering By:
Entity
Clear All

Currently listing 1 post from Frey Blog

AnMo Dino-Lite AM4132T

Category: Miscellaneous
Entity: exp:Instrument
Tags: microscope, usb

The Dino-Lite AM4132T has a 1.3 megapixel camera with 200x optical zoom and a polarizer. The manufacturer's website is also very cool!

Created: 2009-05-04 15:01:40 UTC (about 1 month ago)
Last Edited: 2009-05-04 15:31:54 UTC (about 1 month ago)
Assertions as Sink (1)

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Frey Blog Search

View as RDF
Read Summary
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AnMo Dino-Lite AM4132T
Mark Borkum
Welcome to the Frey Blog!

Categories
Miscellaneous (1)

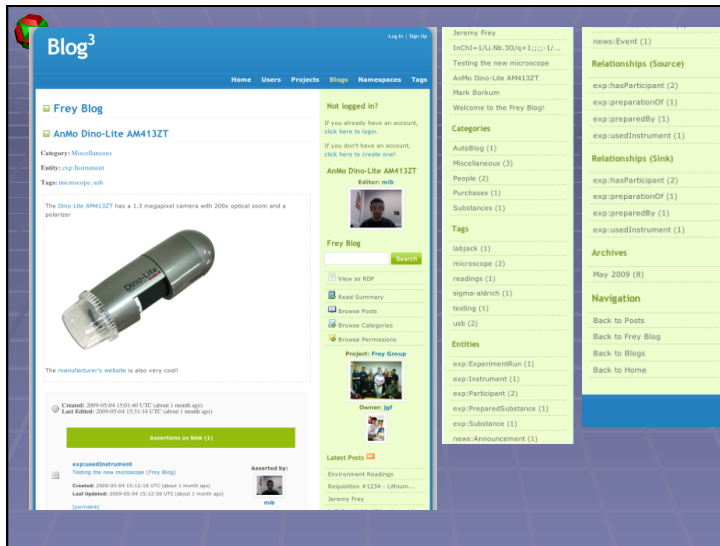
Tags
microscope (1)
usb (1)

Entities
exp:Instrument (1)

Relationships (Sink)
exp:usedInstrument (1)

Archives
May 2009 (1)

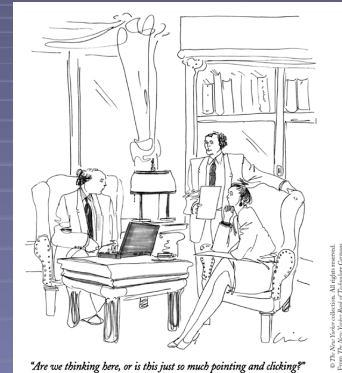
Navigation
Back to Frey Blog
Back to Blogs
Back to Home



The screenshot shows a Blog3 interface. The main content area displays a blog post titled "AnMo Dino-Lite AM4132T" by user "mib". The post includes a photo of a microscope and text describing its features. The right sidebar contains navigation links such as "Home", "Users", "Projects", "Blogs", "Namespaces", and "Tags". Below these are sections for "Categories", "Tags", "Entities", "Relationships (Source)", "Relationships (Sink)", "Archives", and "Navigation".

Impact on researchers

- Higher Quality Record
- Easier Collaboration
- Improved planning
- Improved discussions
- Efficiency gain in production of presentations/reports
- Change the nature of Professor/Student interactions



Influence on Meetings and Discussions

- Enable geographically / temporally separated discussions
- Meeting preparation much less of an imposition
- Posted material is discussed, comparison with older materials is easy
- Change from 'can I look at your data' to 'have you seen my blog post'

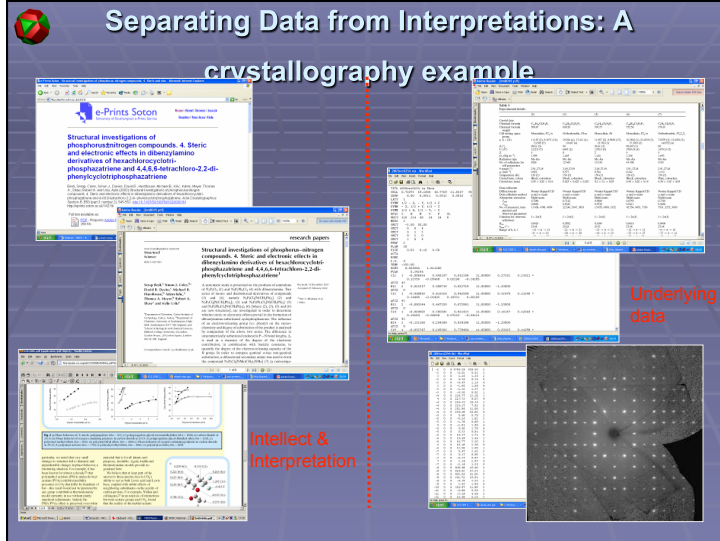




Trust me Mort - no electronic communications superhighway, no matter how vast and sophisticated, will ever replace the art of the schmooze

Growing need for the global (virtual) equivalent of the "Tea Room"

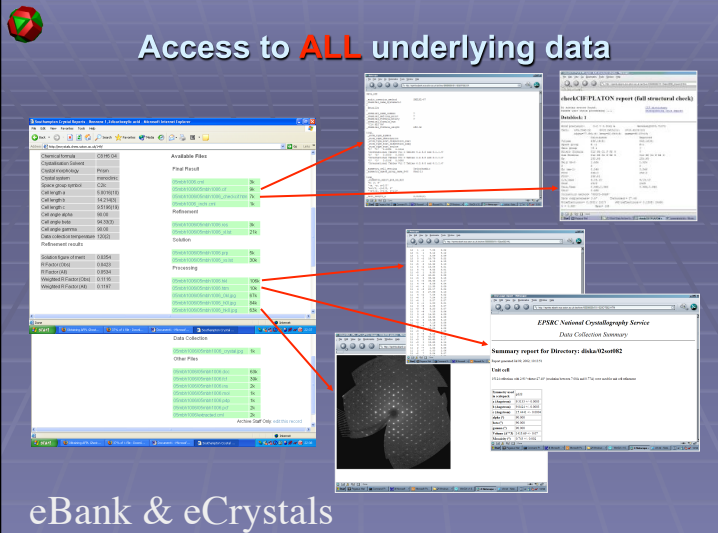
Separating Data from Interpretations: A crystallography example



Underlying data

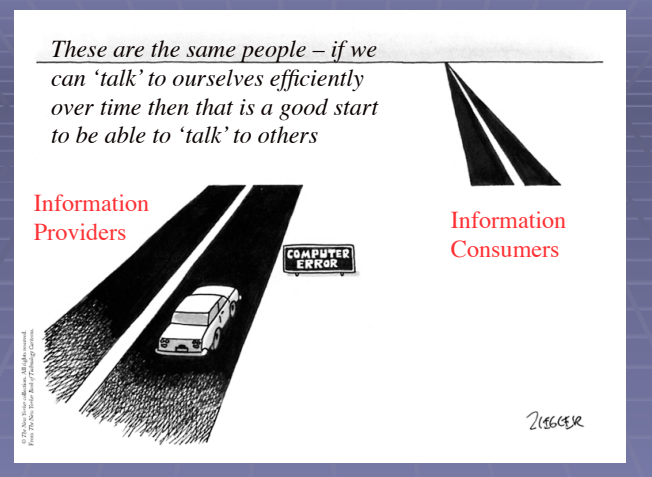
Intellect & Interpretation

Access to **ALL** underlying data



eBank & eCrystals

These are the same people – if we can 'talk' to ourselves efficiently over time then that is a good start to be able to 'talk' to others



Information Providers

Information Consumers

26645R

Faster, Better, Cheaper, How?: An Interview With Domenick J. Tenerelli

Mercury, July/August 1

George S. Musser, Astr

(c) 1995 Astronomical Society

If NASA, science, and I not be working at all, I must be realistic about defend turf. *Lunar Pros*

"Faster, better, cheaper" to reinvigorate the space goal that everyone agrees. Tenerelli at Lockheed knows this more than the *Hubble Space Telescope* built. Now he is projected lunar orbiter in NASA's

WASHINGTON - A for approach that has pursued missions since the early 1960s. The report was written that successfully air-bi. In his 18-page report, While there can be "the communications and r

NASA Report: Too Many Failures with Faster, Better, Cheaper

By Leonard David

Senior Space Writer
posted: 08:41 pm ET
13 March 2000

48-Hour Internet Outage Plunges Nation Into Productivity

OCTOBER 1, 2003 | ISSUE 39-38

BOSTON—An Internet worm that disabled networks across the U.S. Monday and Tuesday temporarily thrust the nation into its most severe maelstrom of productivity since 1992.

ENLARGE IMAGE



48-Hour Internet Outage Plunges Nation Into Productivity

"In all my years, I've never seen anything like this," said Price Stern Sloan system administrator Andrew Walton, whose effort to restore web service to his company's network was repeatedly hampered by employees busily working at their computers. "The local-access network is functioning, so people can

ARTICLE TOOLS

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Internet Opens Up Whole New World Of Illness For Local Hypochondriac
MAY 3, 2000

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JULY 26, 2008

Internet Collapses Under Sheer Weight Of Baby Pictures

JULY 28, 2004 | ISSUE 40-30

SAN FRANCISCO—Many web users were trapped without service Monday, when a large section of the Internet collapsed under the weight of the millions of baby pictures posted online. "Some personal web pages contain literally hundreds of adorable infant photos," MCI senior vice-president Vinton Cerf said. "Add to that the number of precious pumpkins on photo-sharing sites like Ophoto.com, and anyone can see it was a recipe for disaster. The Internet simply was not designed to support so much parental pride." Cerf said he expects regular web-traffic flow to resume once the nation's larger Internet providers are reinforced with stronger cuteness-bearing servers.

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Roomba Violates A Laws Of Robotics

APRIL 14, 2007

Report: 40 Percent

Americans Have Seen



Thanks

- RC UK, EPSRC, JISC for funding
- Colleagues and Students from the Schools of Chemistry, Electronics & Computer Science, Mathematics
- IBM, Microsoft
- www.combechem.org
- www.ecrystals.soton.ac.uk
- chemtools.chem.soton.ac.uk



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Data Sharing

Excerpted from [the Onion](#):

The Recording Industry Association of America announced Tuesday that it will be taking legal action against anyone discovered telling friends, acquaintances, or associates about new songs, artists, or albums.



A daring daylight raid of copyright material

"We are merely exercising our right to defend our intellectual properties from unauthorized peer-to-peer notification of the existence of copyrighted material."



Validation

- Increasing the value of data
- How to bring all the necessary information together to enable appropriate validation
- Increasingly difficult & expensive to achieve

Need provenance and context otherwise just a collection of items

