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# Standardisation

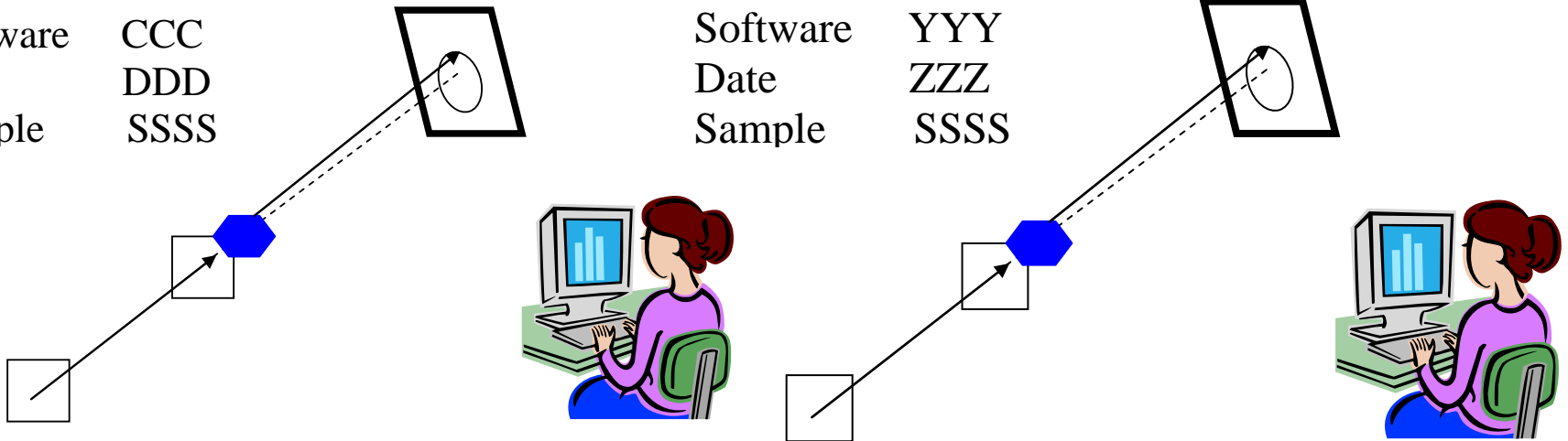
## Goals and Activities



# What is standardisation?

Instrument AAA  
User BBB  
Software CCC  
Date DDD  
Sample SSSS

Instrument WWW  
User XXX  
Software YYY  
Date ZZZ  
Sample SSSS



Do I get the same result? Has the sample changed?  
How sure am I?

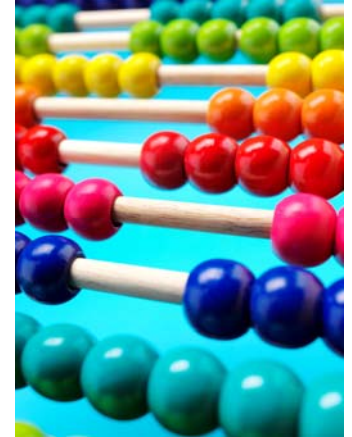
How do we obtain similar results?



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# More than Calibration

- Wavelength
- Distance
- Angle
- Intensity
- Resolution
- Uniformity of detector
- etc.



How do I check these quickly?



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# Are results consistent?

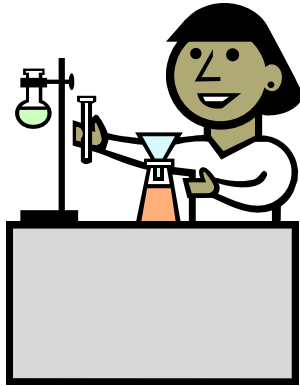
- Is the size (distribution) the same as that from electron microscopy, light scattering, GPC ?
- Does SAXS and SANS give the same result?
- Do I have the same conclusion from model fitting and inversion procedures?

Do we understand the differences?



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# Different Questions?



**User:** Do I understand the data? Are my results publishable?



**Instrument scientist:** Why are results different? Can the user publish the data?



**Facility Manager:**

My instruments are the best?

**Everyone needs to understand better!**



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# Why Standardisation?

Comparisons of samples, instruments, procedures, different techniques and a variety of software can all help understanding of small-angle scattering!

Co-operation and comparison helps this understanding.



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# Agenda

- Suggest what new standardisation is needed
- Identify how best to organise activities
- Think about ways to document results
- What more can we learn? How to disseminate more from previous activities?



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# Possible Activities

- Find ways to measure resolution and detector point spread functions
- Distinguish polydispersity, resolution and multiple scattering
- Standards to compare GiSAS measurements
- Biological macromolecules
- Compare data reduction procedures
- Compare data analysis procedures
- Intercomparison of different techniques





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# Documentation & Dissemination

- What are we learning from standardisation?
- What are the best ways to document good practices?
- How do we share knowledge about results and even mistakes?



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# Organisation

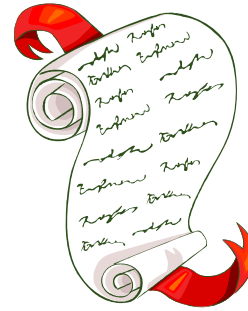
- Who has time to plan and co-ordinate activities?
- Do we need to establish more formal process for collaboration?
- Can we afford to do this work? Can we afford not to do this work?



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# Some Issues to Discuss

- Publishing Standards
- Deposit of Data
- Descriptions of procedures
- ‘Certification’





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# Related to Standardisation

- SAS IUCr Publication Guidelines

<http://journals.iucr.org/d/issues/2012/06/00/be5200/index.html>

- NMR structures in solution - standards

<http://journals.iucr.org/services/nmr/>

- Recent round-robin samples – glassy carbon and latex