modENCODE
Data Coordination Center

www.modencode.org

modENCODE Scope

- Transcriptome
- Regulatory elements
- Chromosome and chromatin associated elements
- Small and microRNAs
- Origins of replication

modENCODE is a Resource

- DCC: Delivers data to you, the community
- We ask you to tell us what you want
- DCC is listening

~100 Year History of Community Cooperation

- Resource/ Stock Centres (BDGP, CGC, DGRC…)
- Shared reagent resources
- Genome projects (single, multiple)
- Annotation jamborees
- Online resources

- *Drosophila*/ *C. elegans* coordination (modENCODE)

modENCODE in Relation to ENCODE

- Both working on functional elements of DNA
- Exchange of technologies with ENCODE (UCSC)
- modENCODE advantages:
  - can do experimental validation
  - identify functional elements in repetitive sequences
  - Comparisons between worm and fly (and human…)
- This community must set an example for ENCODE

Who are the DCC?

- Principal Investigators
  - Lincoln Stein (PI)
  - Suzi Lewis (coPI)
  - Gos Micklem (coPI)
  - Jim Kent (coPI)
- Wiki and Web Site
  - Sergio Contrino
  - François Guillier
- ENCODE Contacts
  - Kate Rosenbloom
  - Galt Barber
- Data Managers
  - E.O. Stinson (fly)
  - Nicole Washington (fly)
  - Sheldon McKay (worm)
  - Zheng Zha (worm)
- Infrastructure
  - Richard Smith
  - Kim Rutherford
  - Chris Mungall

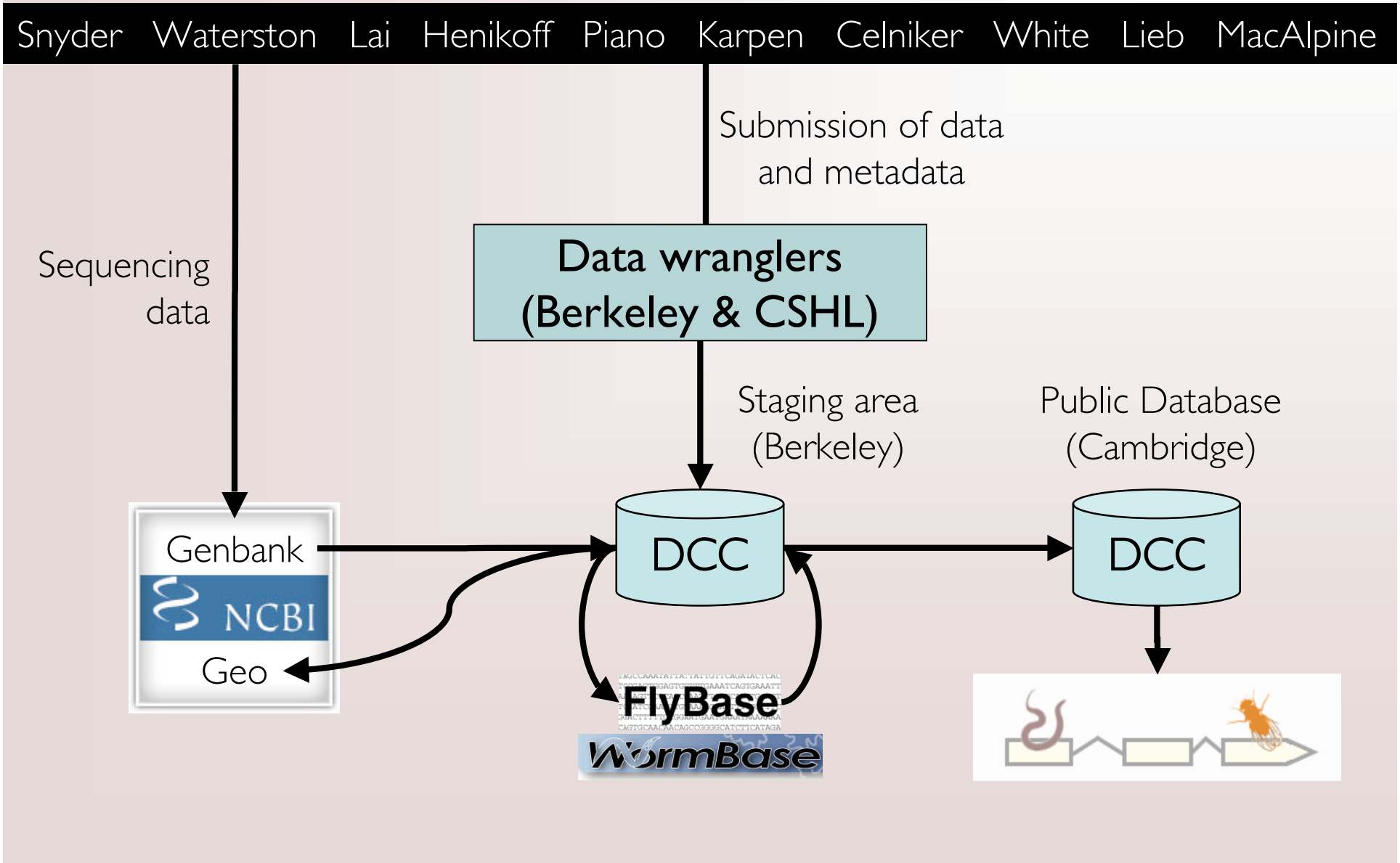
The DCC's Charge

- Provide support for data submission and tracking
- Ensure data integrity and consistency
- Integrate with other information sources
- Make available to the research community

Types of Queries

- Retrieve data by:
  - Protocol type
  - Submitting lab
  - Platform (e.g. Affy Chip set 5.x)
  - Experimental attribute (e.g. Show me the expression array results that use a sliding window > of 30bp)
- Ask useful questions:
  - What antibodies were produced in rabbit that work for ChIP-chip?
  - What is the EST evidence for a particular gene model?
  - What gene models lack cDNA evidence for their TSS?
  - What genomic regions show transfrags that don't have RNA Pol II binding sites within 500bp?

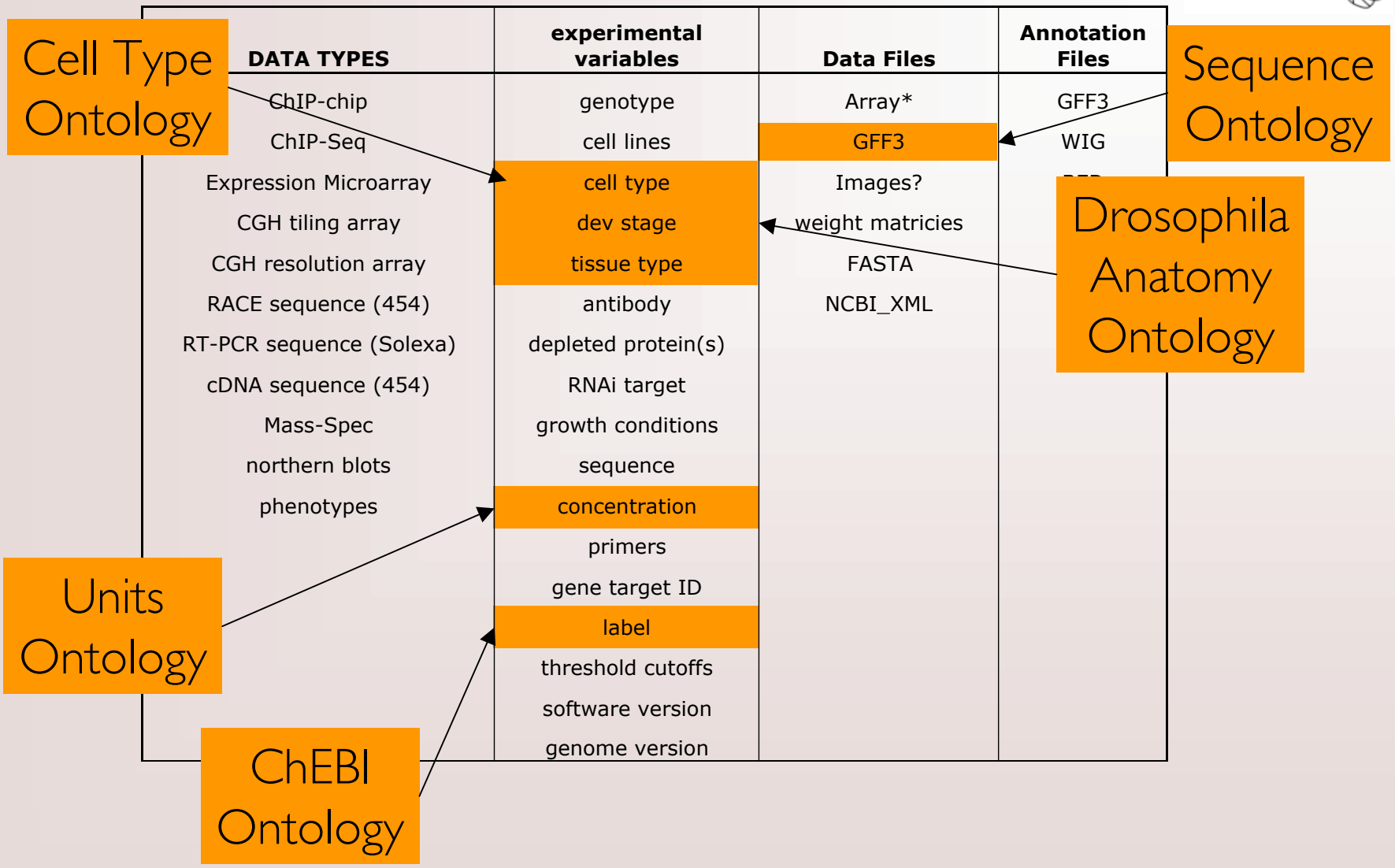
modENCODE & the DCC



Data type summary

DATA TYPES	experimental variables	Data Files	Annotation Files
ChIP-chip	genotype	Array*	GFF3
ChIP-Seq	cell lines	GFF3	WIG
Expression Microarray	cell type	Images?	BED
CGH tiling array	dev stage	weight matricies	
CGH resolution array	tissue type	FASTA	
RACE sequence (454)	antibody	NCBI_XML	
RT-PCR sequence (Solexa)	depleted protein(s)		
cDNA sequence (454)	RNAi target		
Mass-Spec	growth conditions		
northern blots	sequence		
phenotypes	concentration		
	primers		
	gene target ID		
	label		
	threshold cutoffs		
	software version		
	genome version		

Data type summary



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Permanent public ID

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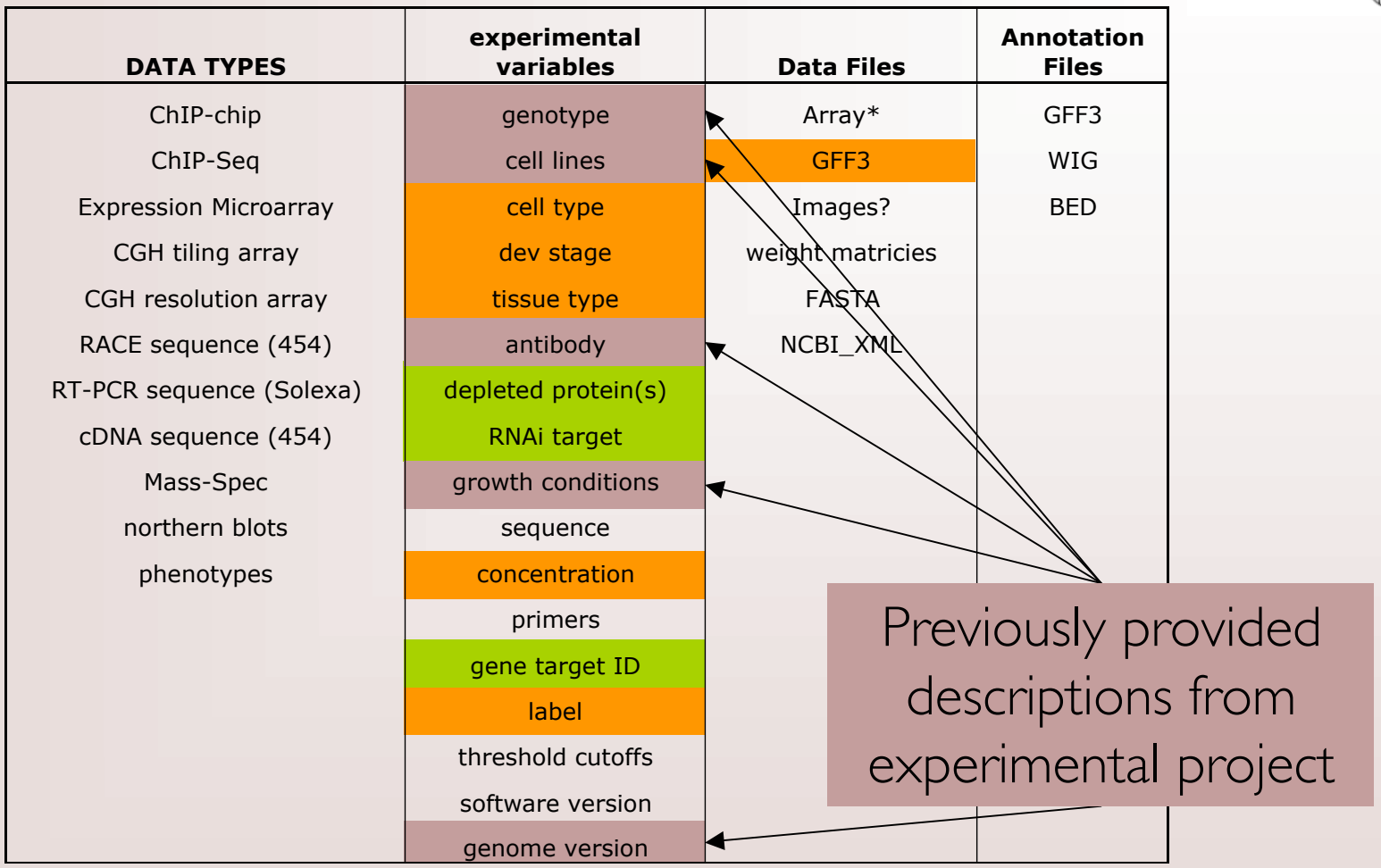

Biological Investigation Report Tabular Format: BIR-TAB

- A superset of microarray submission formats (MAGE-TAB)
- Extensive support for controlled vocabulary
- Supports any protocol that can be abstracted as an operation with inputs and outputs

Steps in Validation

- Syntax checking
- Only terms from specified controlled vocabularies
- External identifiers exist
- Agrees with previously supplied protocol and reagents descriptions
- Check format of data files (currently WIG, GFF3, and BED supported)
- Load into database
- Generate downstream output files

Why Consistency

- Comparison, CompaRison, Comparison
- Without consistency there can be no comparison

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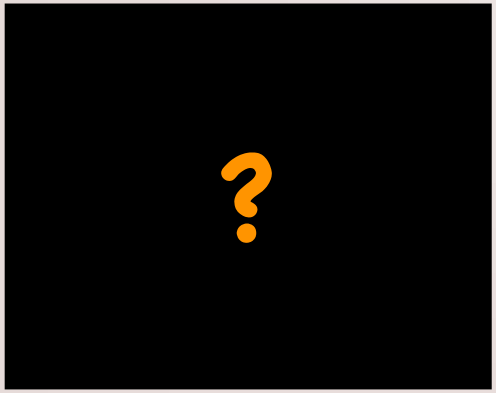
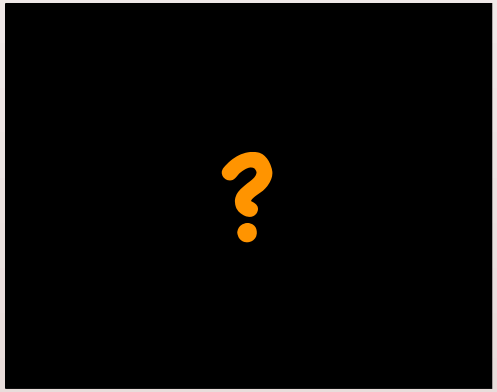
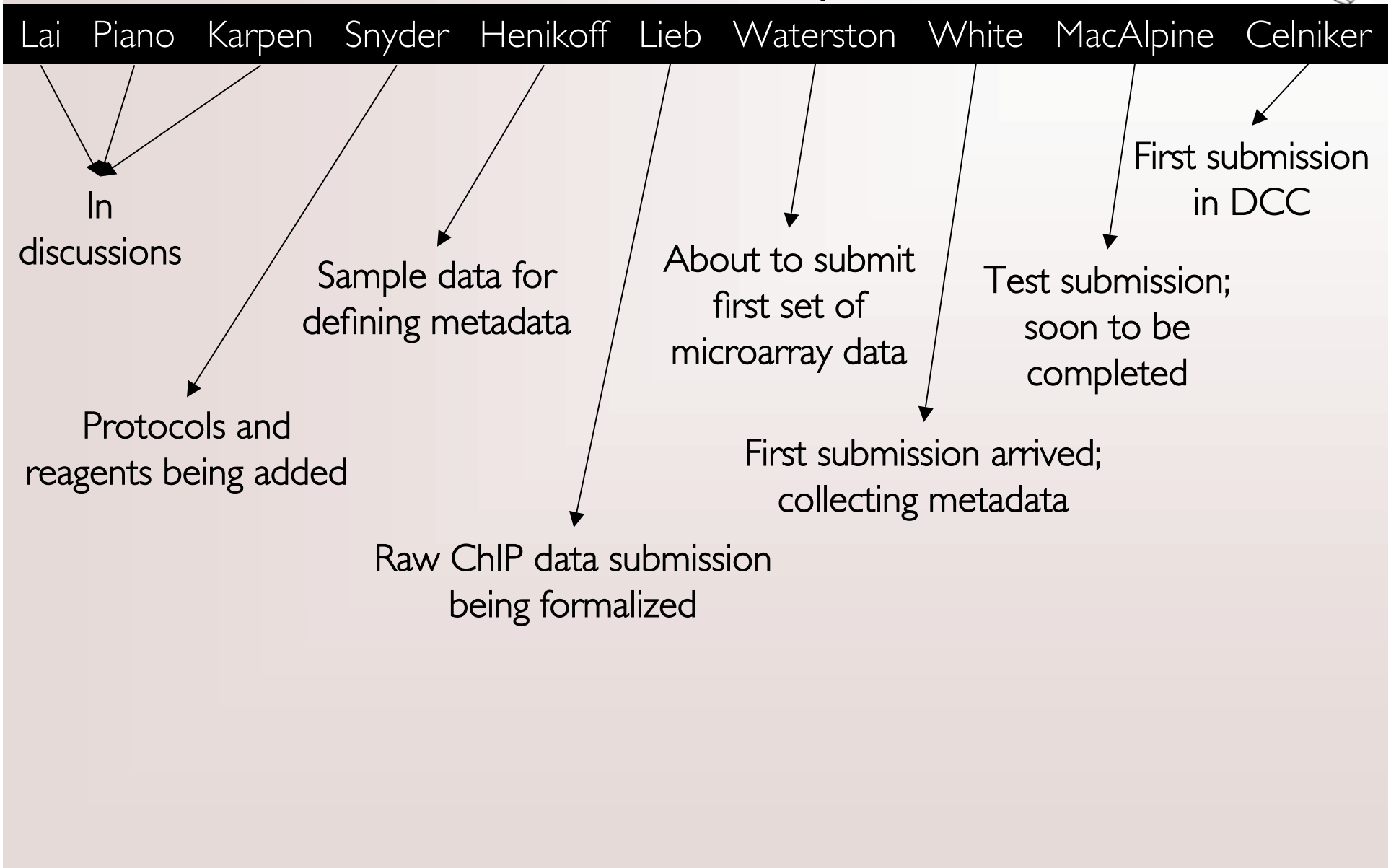




Status of data delivery



modENCODE Q & A

- Royal Palm Salon 4
- Personal question and answer sessions
- Ask for Richard, Nicole, Gos or EO





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1700 - 1716 7th Floor 1717 - 1733
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1500 - 1516 5th Floor 1517 - 1533
1400 - 1416 4th Floor 1417 - 1433
1300 - 1316 3rd Floor 1317 - 1333
1200 - 1216 2nd Floor 1217 - 1233
1100 - 1116 1st Floor 1117 - 1733
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GOLDEN PACIFIC BALLROOM
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PACIFIC SALON SIX
PACIFIC SALON SEVEN
PACIFIC BALLROOM
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POOL
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GOLDEN WEST
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ROYAL PALM DRIVE
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REGENCY ROAD
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LE SOMMET
WINDSOR ROSE
LE CHAMPLAIN
2800 - 2831
2700 - 2731
2600 - 2631
2500 - 2531
2400 - 2431
2300 - 2331
2200 - 2231
2100 - 2131
3580 3571
3540 3531
3541 - 3543
3500 - 3502
3544 - 3546
3503 - 3505
3530 3570
3517 3557
3506 3547
3516 3556
3450 3462
3400 3414
3749 - 3783
3735 - 3769
3756 - 3789
3742 - 3775
SHEFFIELD
HAMPTON
WINDSOR
GARDEN SALON ONE
GALLERIA ONE
GARDEN SALON TWO
GALLERIA TWO
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ASCOT
BRITTANY
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EATON
FAIRFIELD
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