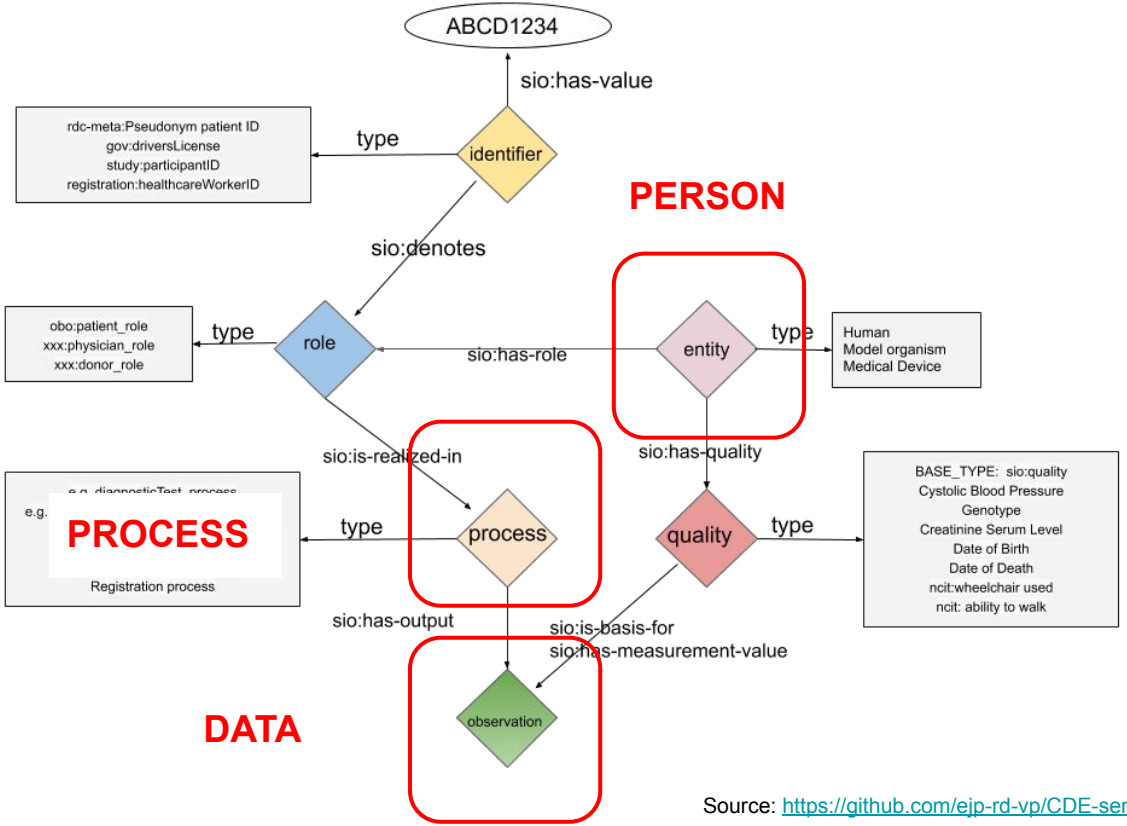
Sample RDF model

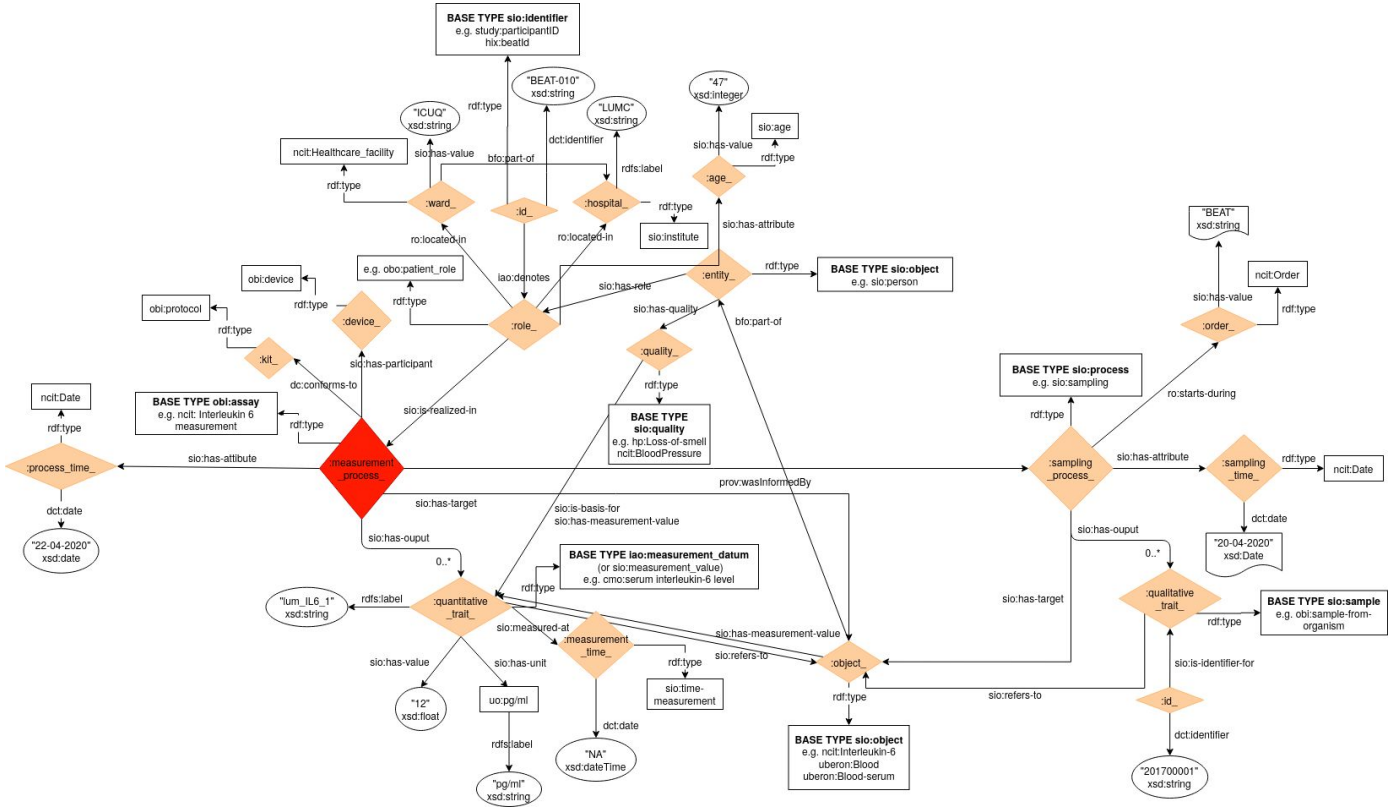
FAIRification hackathon, 26 Jan 2021

CDE CORE Semantic Model



Source: https://github.com/ejp-rd-vp/CDE-semantic-model/wiki/Core-model-SIO

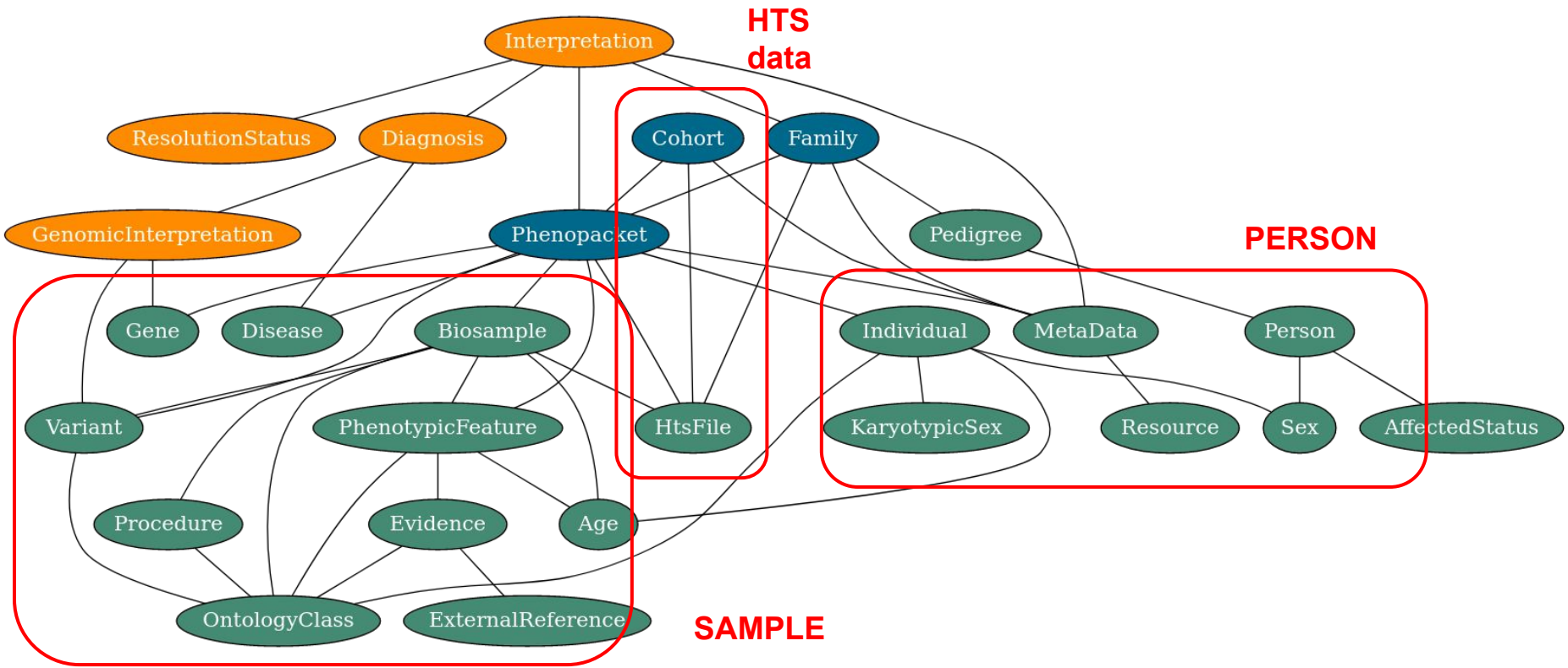
App: COVID-19 Clinical Lab Measurements



Source: https://github.com/LUMC-BioSemantics/beat-covid/blob/master/fair-data-model/cytokine/cytokines_semantic_model.png

Phenopackets Schema

I will look at the semantic PPs today!



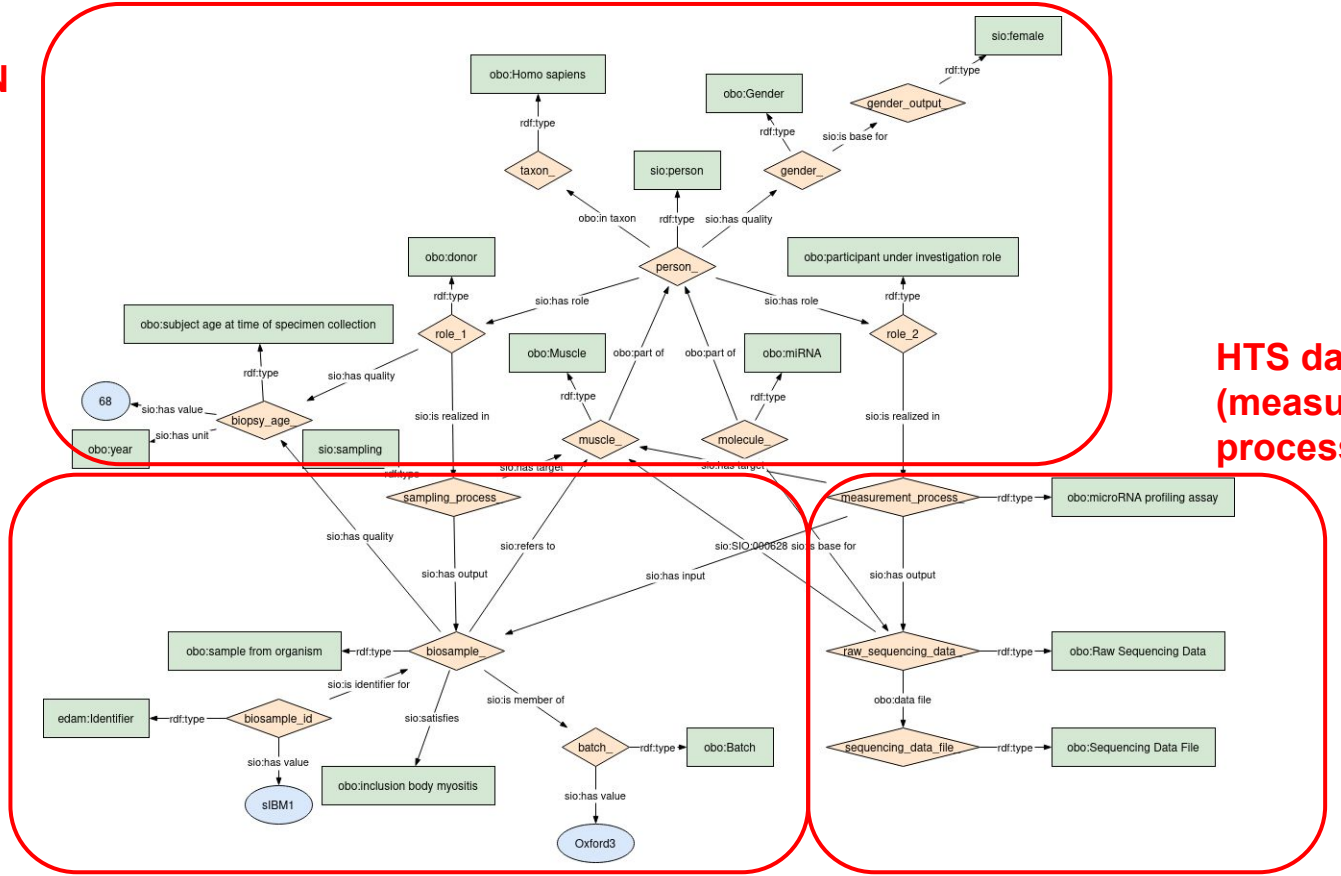
Source: https://phenopackets-schema.readthedocs.io/en/latest/schema.html

IBM Sample Semantic Model v.2

PERSON

SAMPLE (sampling process)

HTS data (measurement process)



SPARQL Queries http://ejprd.fair-dtls.surf-hosted.nl:8093/blazegraph/#query

```
# PREFIXES

prefix : <http://purl.org/ejp-rd/ibm/metadata/example-rdf/>

prefix obo: <http://purl.obolibrary.org/obo/>

prefix sio: <http://semanticscience.org/resource/>

prefix edam: <http://edamontology.org/>

prefix efo: <http://www.ebi.ac.uk/efo/>

prefix xsd: <http://www.w3.org/2001/XMLSchema#>
```

SPARQL Queries http://ejprd.fair-dtls.surf-hosted.nl:8093/blazegraph/#query

```
# Query for sample annotation: age, sampled_tissue, disease/control case

SELECT DISTINCT ?sample ?biopsy_age ?biopsy_tissue ?case_type WHERE {

        ?sample sio:SIO_000217 ?biopsy_age ;

                sio:SIO_000628 ?biopsy_tissue ;

                sio:SIO_000362 ?case_type .

}
```

SPARQL Queries http://ejprd.fair-dtls.surf-hosted.nl:8093/blazegraph/#query

```
SELECT DISTINCT ?sample ?biopsy_age ?gender WHERE {

?sample_id a edam:data_0842 ;

sio:SIO_000672 ?sample ;

sio:SIO_000300 ?id.

FILTER (?id ="sIBM1")

?sample sio:SIO_000217 [a obo:GENEPIO_0001775; sio:SIO_000300 ?biopsy_age ].

?sampling_process_ a sio:SIO_001049 ;

sio:SIO_000229 ?sample .

?role_1 a obo:OBI_1110087 ;

sio:SIO_000356 ?sampling_process_.

?person a sio:SIO_000498 ;

sio:SIO_000217 [a obo:NCIT_C17357 ; sio:SIO_000642 ?gender] ;

sio:SIO_000228 ?role_1.

}
```

Grlc API

Repo with SPARQL queries
https://github.com/LUMC-BioSemantics/EJP-RD-WP13-IBM-hackathon

Grlc API

http://grlc.io/api-git/LUMC-BioSemantics/EJP-RD-WP13-IBM-hackathon