Seek platform

Share scientific research

FAIR principles

- SEEK is being developed and funded as part of the FAIRDOM initiative

- Developed by university of Manchester -> v1.2

- FAIR :
  - Findable
  - Accessible
  - Interoperable
  - Reusable

- Individuals and machines

SEEK platform

- **Web-based** resource for **sharing** heterogeneous scientific **research**
  - datasets
  - models
  - processes
  - research outcomes

- It preserves associations between them

- The research can be **organized** based on the ISA-Tools format
  - **I**nvestigations
  - **S**tudies
  - **A**ssays (experiments)

ISA standard

- **I**nvestigation
  - project context
  - Growth control of the eukaryote cell: a systems biology study in yeast

- **S**tudy
  - a unit of research
  - Study of the impact of changes in flux on the transcriptome under different nutrient limitations
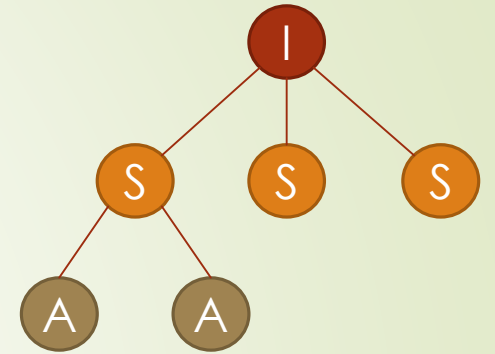
- **A**ssay
  - analytical measurement
  - Protein expression profiling using mass spectrometry

- Format
  - Tabular
  - Easy-to-read for scientists

- ISAtools
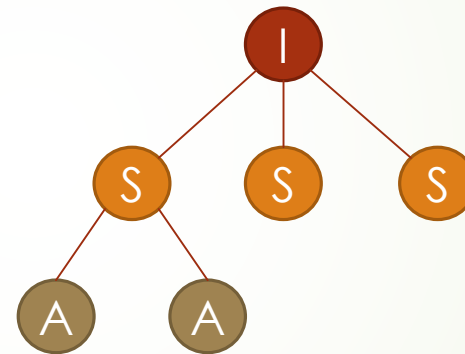 - Java tools to help scientists to make ISAtab files

Seek and ISA

- ISA-tab = complete biological metadata
  - Very hard to create a 'valid' ISA-Tab …
  - but **all** your experimental details are captured
  - *Experimental factor, rate, genotype, etc.*

- Seek is just based on the ISA architecture
  - Just the **more important** metadata are captured
  - *Organism, protocol, sample, technology type, data files*

Several items

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  - Institution
  - Project

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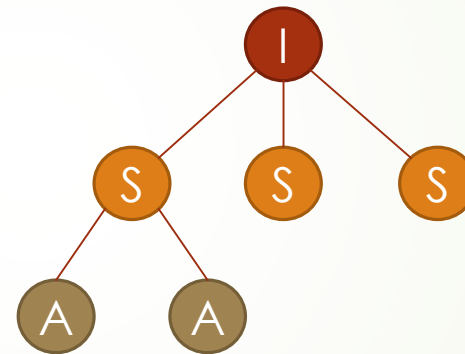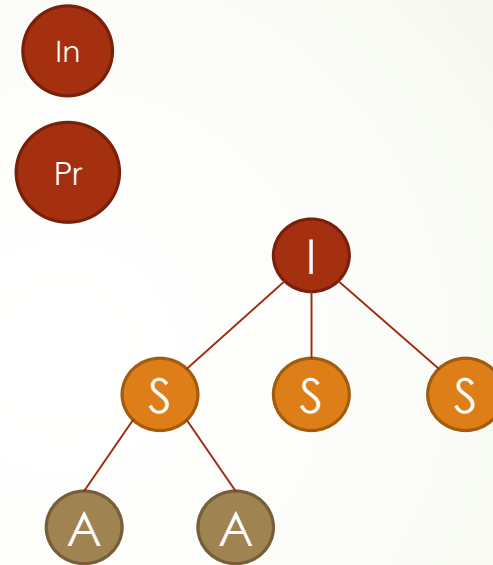 - Strain
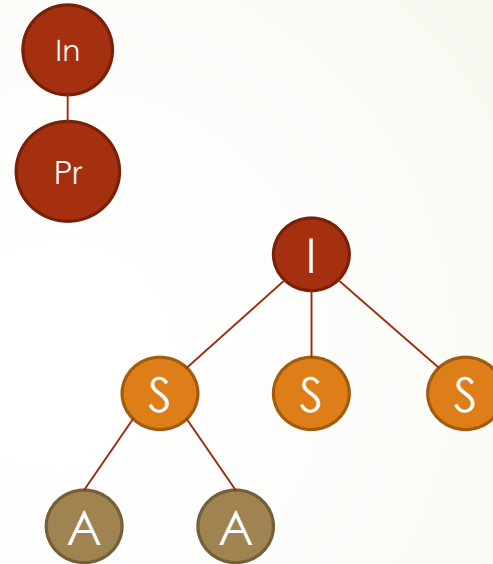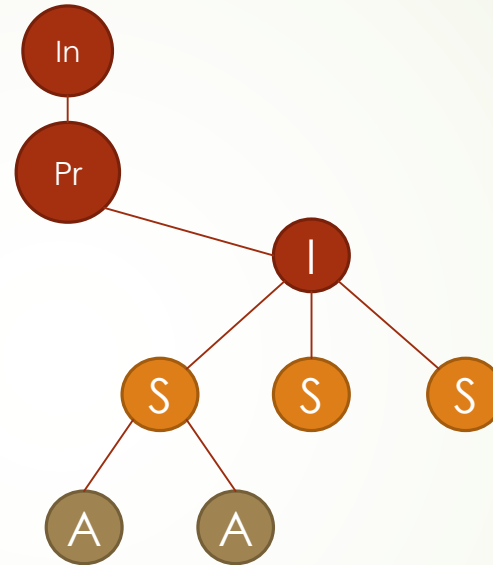 - Organism

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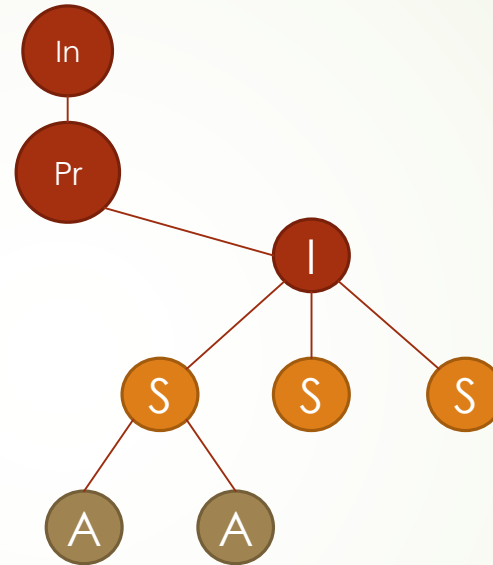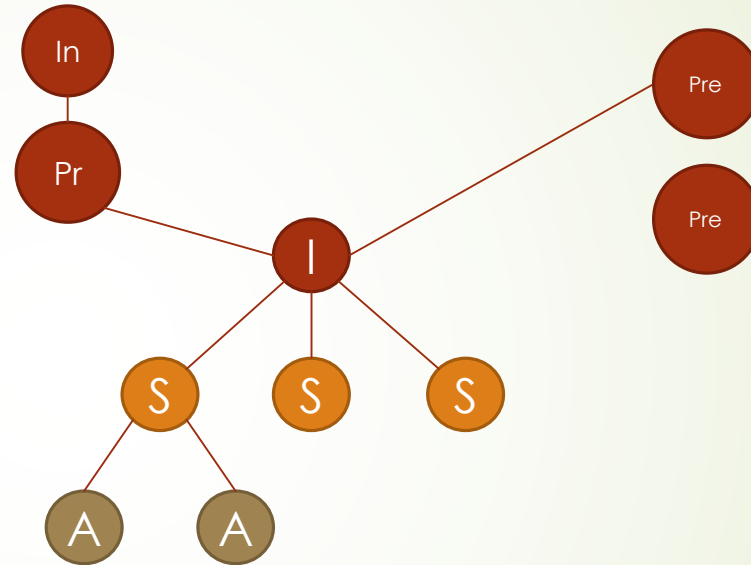 - Strain
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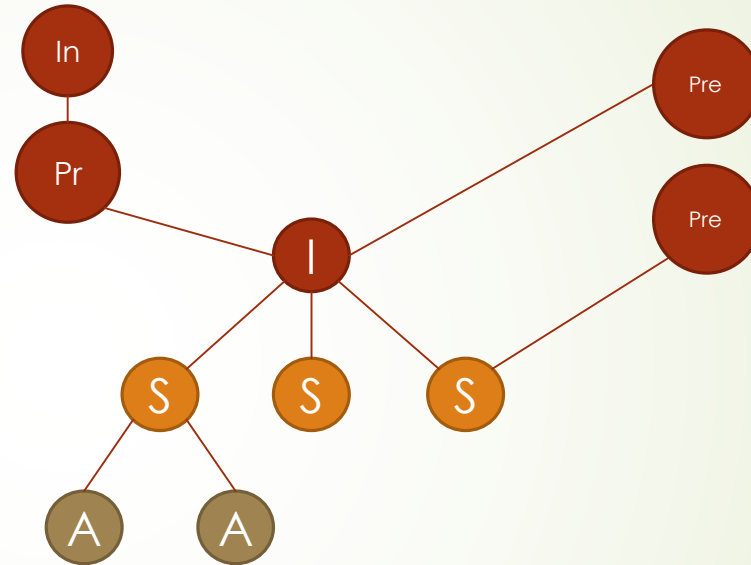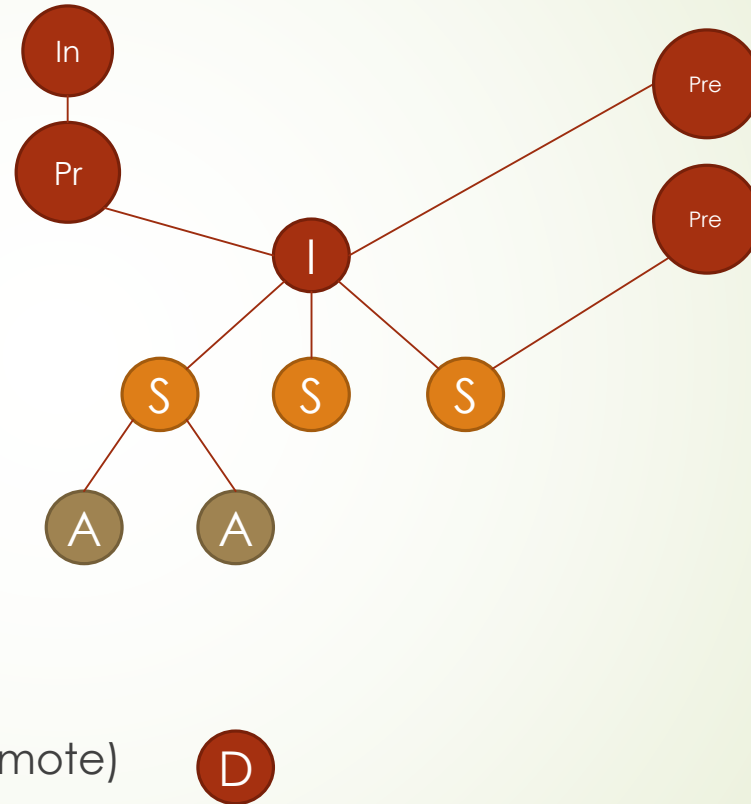 - Sample type
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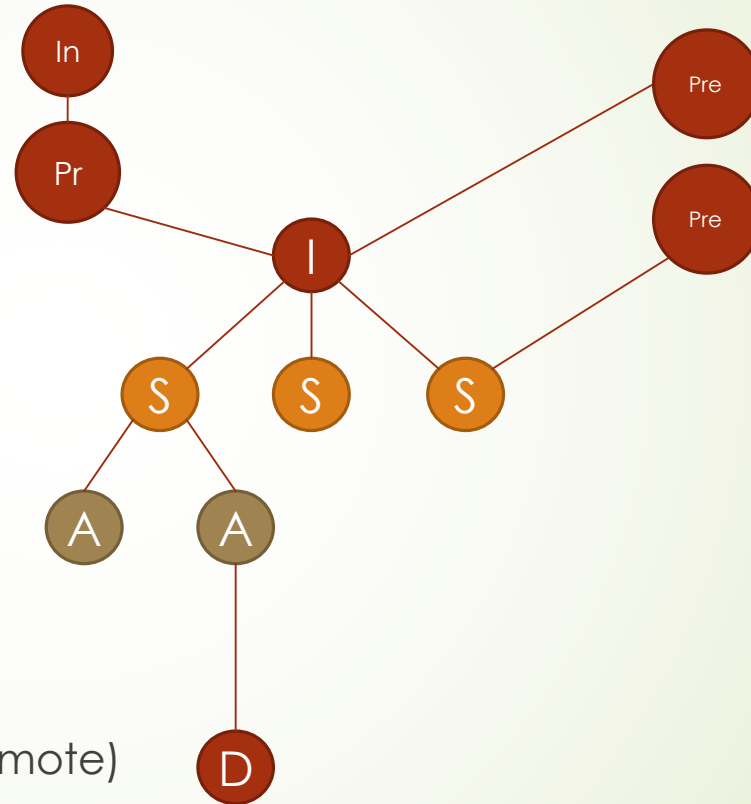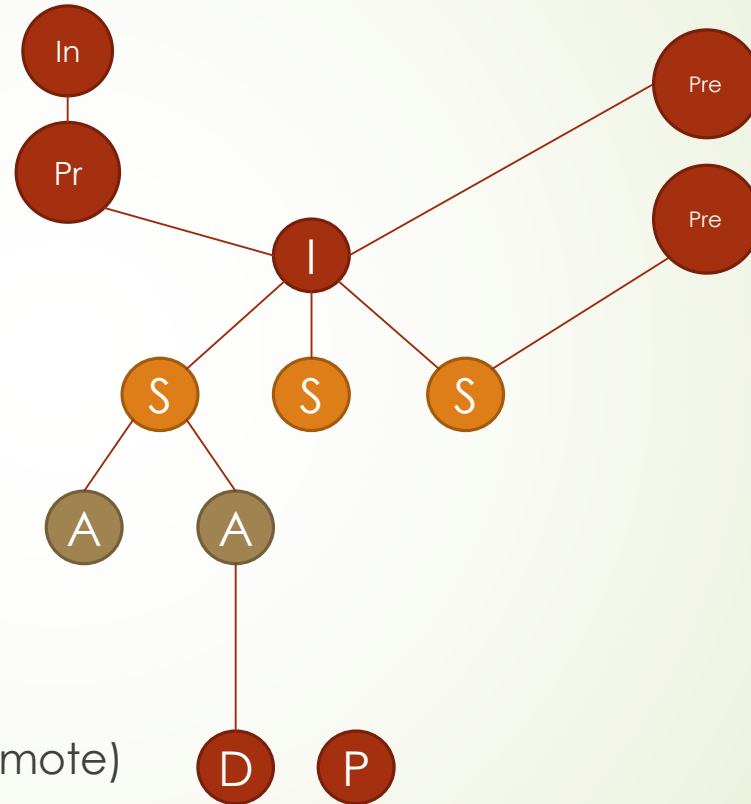 - Sample type
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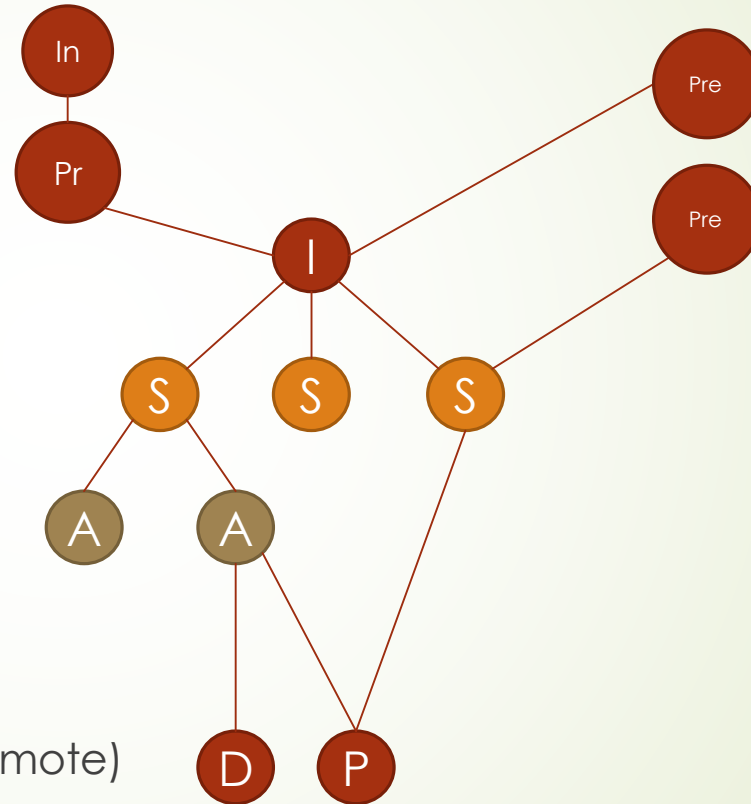 - Sample type
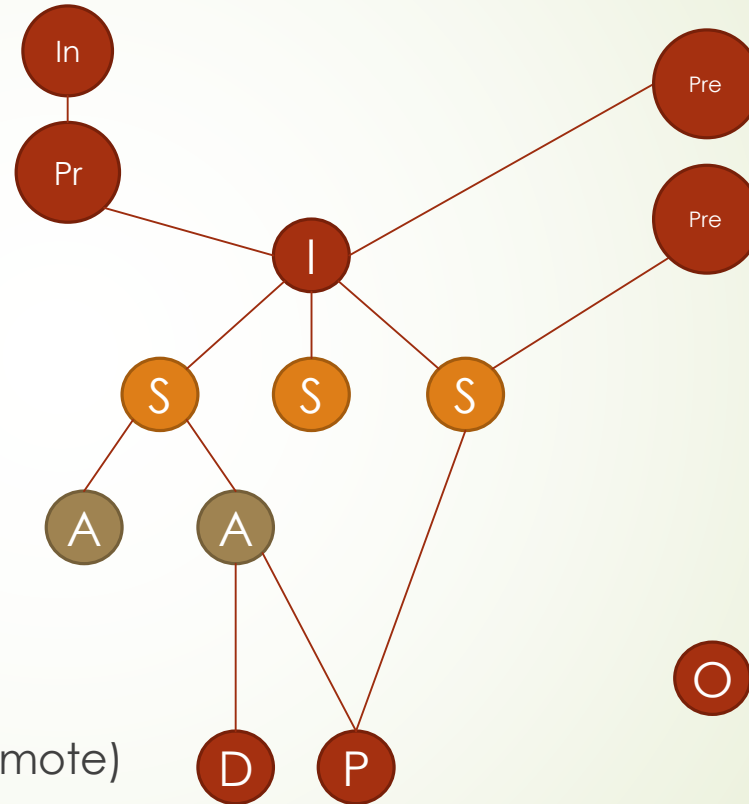 - Strain
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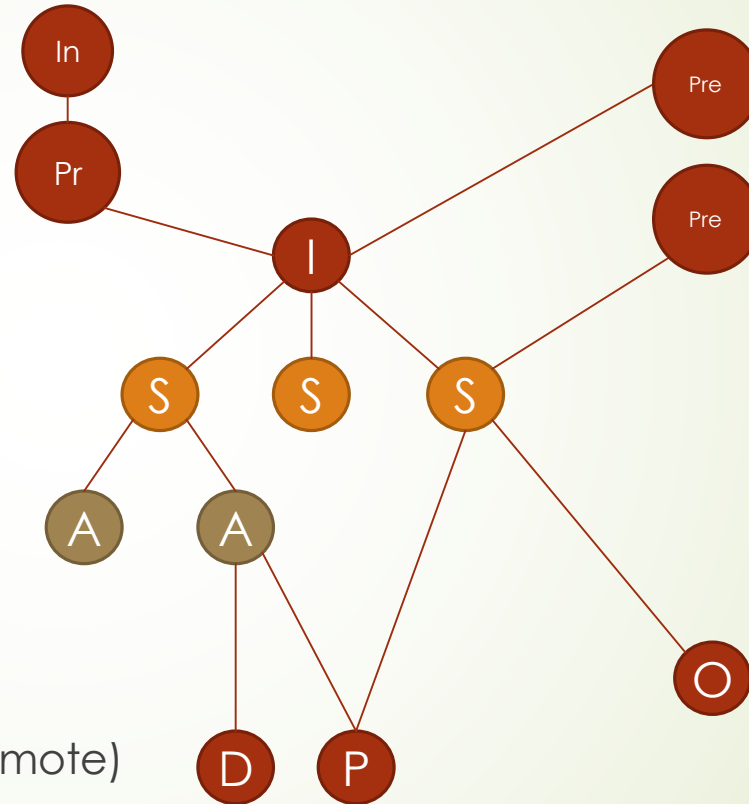 - Strain
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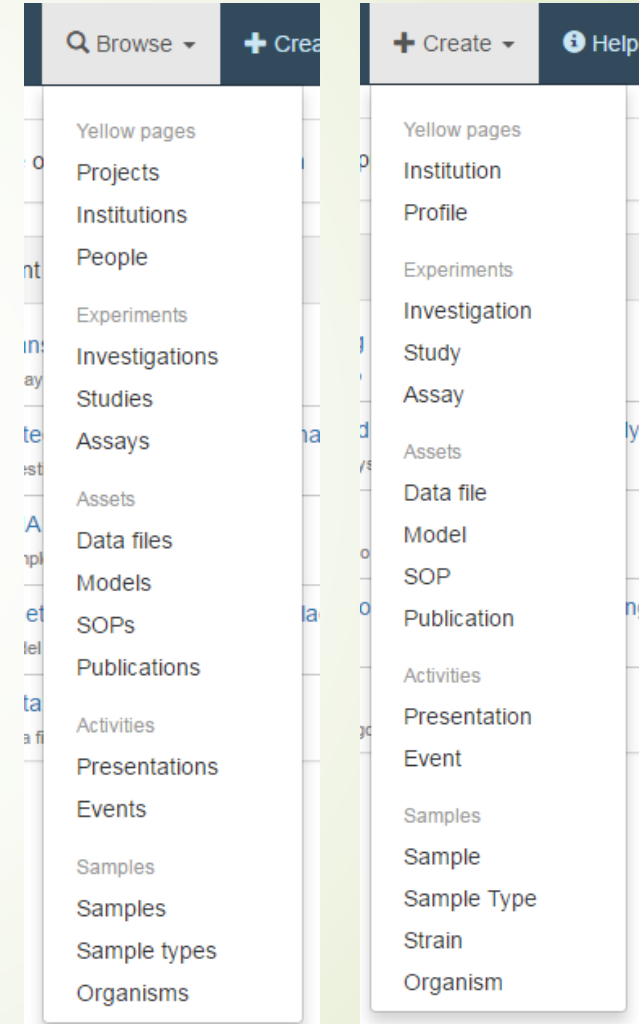 - Strain
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SEEK web interface

- ➡ Simple menu
  - ➡ Browse
  - ➡ Create
  - ➡ Search
  - ➡ Help

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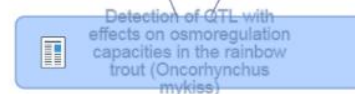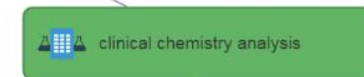
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Seek web interface
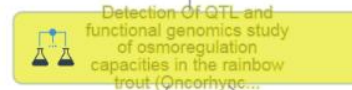
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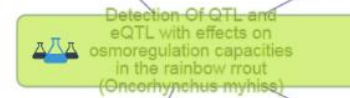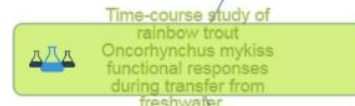 - **Related items for each item**

SEEK web interface

SEEK production for Cesgo

- https://seek.cesgo.org

- <u>Accessibility</u> :
  - Need a GenOuest account
  - Connection to seek.cesgo.org with GenOuest credentials
  - During the first connection
    - Ask creation of a new project …
    - .. or ask to join with existing project

SEEK and data

- Seek can manage data files
  - <u>Local</u> : upload with seek
  - <u>Remote</u> : url

- Cesgo offers a web interface to manage data files
  - https://data-access.cesgo.org
  - This web application can :
    - Access to GenOuest data (home, group, omaha)
    - Generate public links from private data