

# Management of Scientific Data

ChemBioSys

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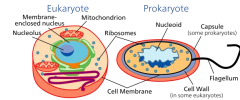
## Project Background

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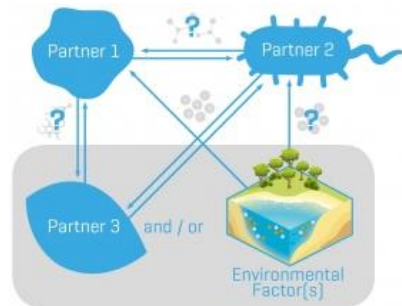
## ChemBioSys -Goals

### Goals of ChemBioSys:

1. Discovery of chemical mediators and their targets
2. Understanding the mechanisms that generate community structures
3. Directed modulation of complex Biosystems



### Understanding Complex Communities



### ChemBioSys - Project

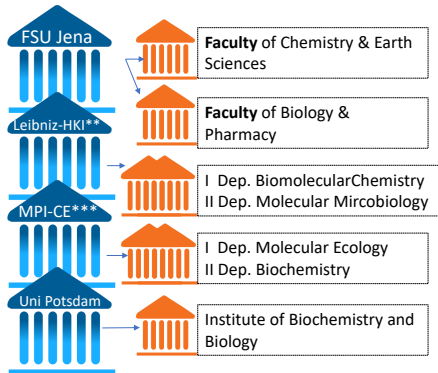
- Second DFG funding period (2018 -2022)
- Large Project: Currently ca. 70 active scientists
- Phd- and Masters' Theses, Students' Projects

## ChemBioSys – Organisational Structure

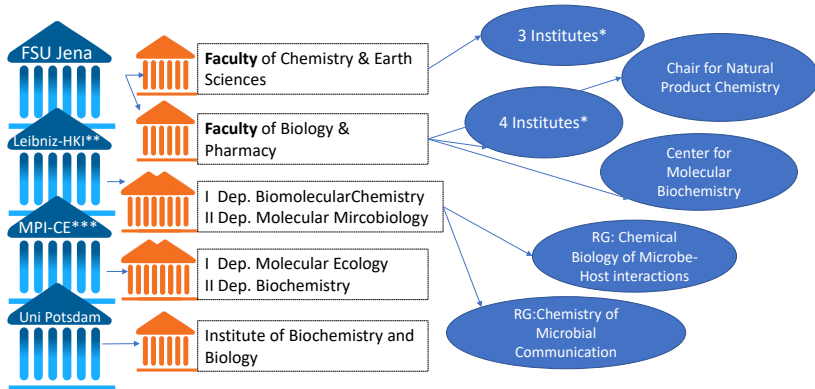


\*not listed \*\*Hans-Knöll-Institute \*\*\*Max-Planck-Institute for Chemical Ecology, RG: Research Group

## ChemBioSys – Organisational Structure

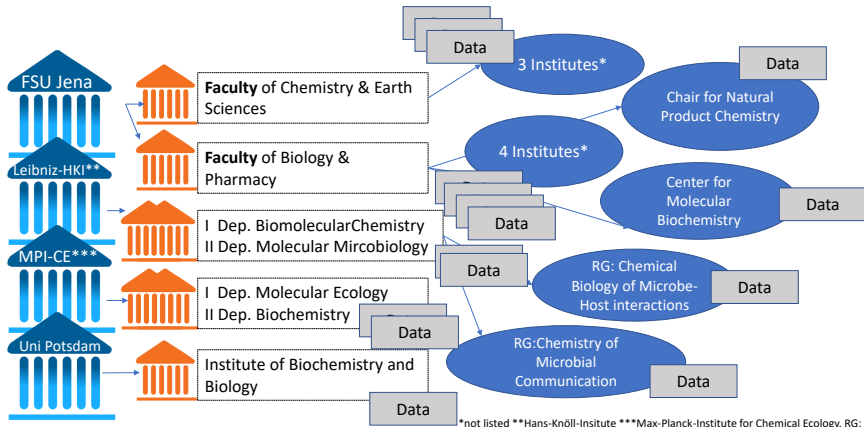


## ChemBioSys – Organisational Structure



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## ChemBioSys – Data Overview

### Mass-Specrometry LC-MS, GC-MS

Molecule Mass Data

LC-MS and GC-MS  
produce similar data

### Nuclear Magnetic Resonance Spectroscopy (NMR)

Molecule / protein  
detection & analysis

Structure, dynamics,  
reaction state,  
chemical environ-  
ment of molecules

### Gene Sequencing

Mostly DNA/RNA-  
Strings A,U,T,G,C

### Image Data

Images (jpeg, png,  
svg, ...)

Usages:

- Petri dishes
- Plants
- Bacteria
- etc.

### Metabolism Data

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## Status of data management

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# Status of data management

- The previous data management team neglected their tasks
- Data management has to be implemented from scratch
- **Problem:** " We always did it this way!" - mentality
- Some labs use online repositories for their data management
- Disparate formats of meta data storage (**.txt**, **.csv**, **.docx**)
- Objective of BioChemSys: show the advantages of a well implemented DMS

## Challenges & Trends

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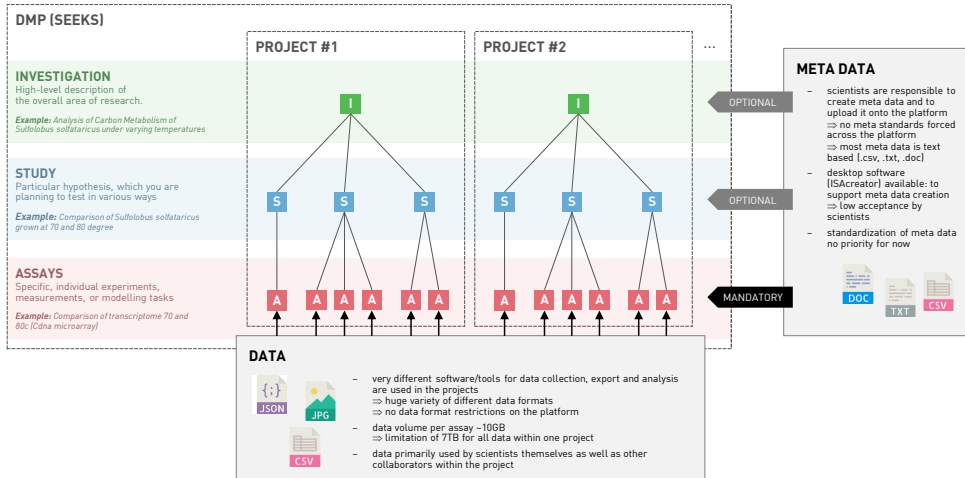
# Challenges & Trends

- No data management mindset
  - People often don't see the benefit in proper data management
  - Leads to varying formats of datasets
- Limited time and money for data management
- Space limitation for storing Data
  - When server is full data has to be deleted
- Data access
  - Most scientists keep their data private

datasets/meta data storage

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# datasets/meta data storage



Questions?