Knowledge Management in the Swiss Digital Botanical Gardens Initiative (Swiss DBGI-KM)

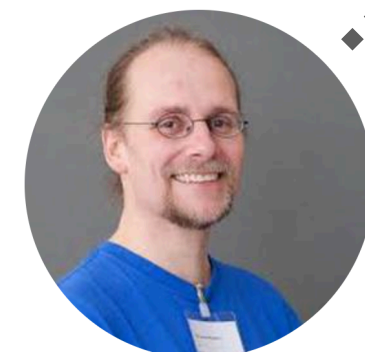https://doi.org/10.5281/zenodo.7663471

Who does what ?

Scientific Advisors

Botanical Gardens directors

Swiss Digital Botanical Gardens Initiative

Establish chemical extracts libraries of Swiss botanical gardens

Provide "molecular arguments" for biodiversity conservation policies

Digitize, through mass spectrometry, the chemodiversity of Swiss botanical gardens

Establish robust and scalable workflows for the digitization of wildlife ecosystems biodiversity

Gather chemical information and relevant samples metadata in a tailored knowledge graph

Illustrate the feasibility and advantages of an end-to-end Open Science project

Establish web and programmatic interfaces for the query of the acquired knowledge

Connect to existing ontologies (bio, chemo) and biodiversity digitization projects

Nadir Alvarez

Donat Agosti

Mingxun (Ming) Wang

Jakub Galgonek

Philippe Cudre-Mauroux

Egon Willighagen

Daniel Mietchen

Blaise Mulhauser

Gregor Kozlowski

PLAZI TAKING CARE OF FREEDOM

UC RIVERSIDE

ÚOCHB IOCB PRAGUE

eXascale Infolab

UNI FR

UNI FR

Bota Bota Jardin Botanique de l'Université de Fribourg Botanischer Garten der Universität Freiburg

jbn jardin botanique neuchâtel

IGB Leibniz Institute of Freshwater Ecology and Inland Fisheries

Maastricht University

Swiss DBGI-KM team

WP5 - Community Engagement, Public Outreach & Biodiversity Conservation

"Produce tutorials and educational material describing best ORD practices. Connect to existing biodiversity digitization projects. Raise public awareness on chemodiversity."
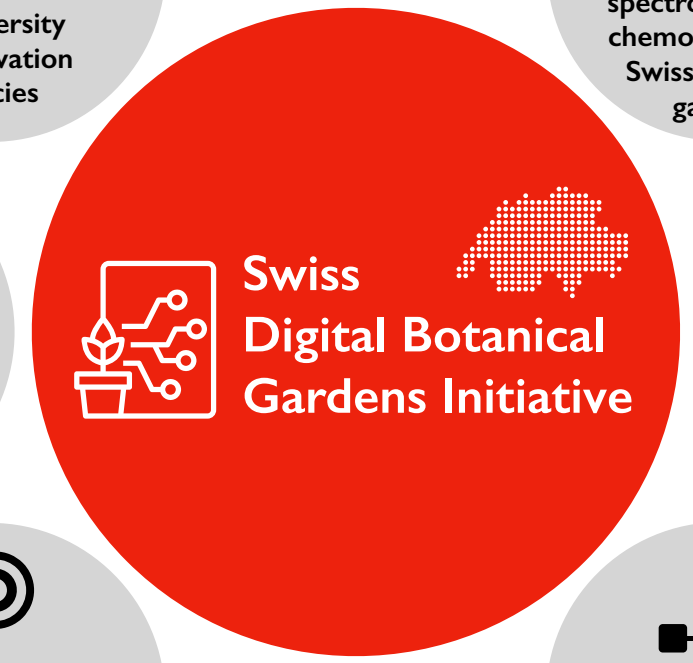
unine
Université de Neuchâtel

WP2 - Sample tracking system establishment

"Tracking physical objects and linking them to their digital counterpart"

ETH zürich

WP3 - Knowledge representation and graph establishment

"Organising large amount of heterogeneous data to facilitate knowledge extraction and FAIRness"

SIB
Swiss Institute of Bioinformatics

WP4 - Human-Data Interaction

"Improve Human-Data interaction through natural language processing and data visualisation.
Explore new means for knowledge dissemination"

UNI FR

Bernd Rinn

Henry Lütcke

Caterina Barillari

Tom Walker

Tarcisio Mendes de Farias

Ana Claudia Sima

Christophe Dessimoz

Postdoc UniFr

Swiss Digital Botanical Gardens Initiative

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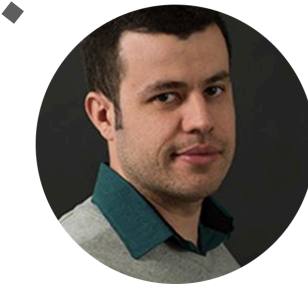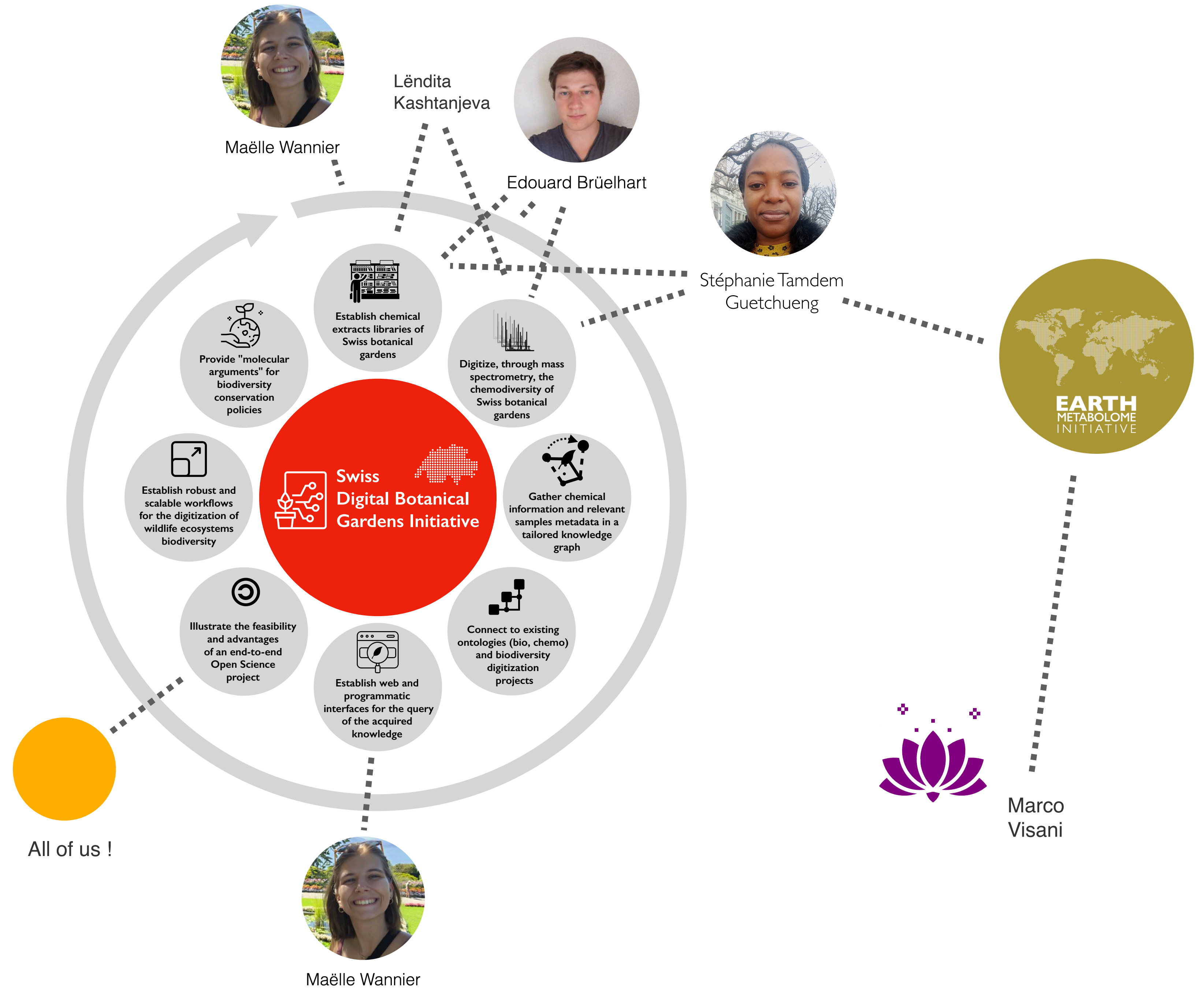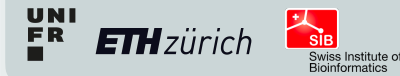Connect to existing ontologies (bio, chemo) and biodiversity digitization projects

Illustrate the feasibility and advantages of an end-to-end Open Science project

Establish web and programmatic interfaces for the query of the acquired knowledge

DBGI team

Maëlle Wannier

Lëndita Kashtanjeva

Edouard Brüelhart

Stéphanie Tamdem Guetchueng

EARTH METABOLOME INITIATIVE

Swiss Digital Botanical Gardens Initiative

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All of us !

Maëlle Wannier

Marco Visani

Who does what ... and when ?

WP1 - Project coordination UNIFR

WP2 - Sample tracking system establishment ETHzürich

Defining identifiers, data and metadata formats
UNIFR ETHzürich SIB Swiss Institute of Bioinformatics

Iterative refinement & evaluation of other implementations
ETHzürich UNIFR unine SIB Swiss Institute of Bioinformatics

Specification & first draft of the sample tracking system
ETHzürich

Advanced version
ETHzürich

WP3 - Knowledge representation and graph establishment SIB Swiss Institute of Bioinformatics

Ontology engineering
SIB Swiss Institute of Bioinformatics UNIFR

Knowledge Graph interoperability
SIB Swiss Institute of Bioinformatics

Knowledge Graph construction
SIB Swiss Institute of Bioinformatics

SPARQL endpoint establishment
SIB Swiss Institute of Bioinformatics

WP4 - Human-Data Interaction UNIFR

Visualisations
UNIFR unine SIB Swiss Institute of Bioinformatics

Semantic search
SIB Swiss Institute of Bioinformatics

Dissemination
UNIFR SIB Swiss Institute of Bioinformatics

WP5 - Community Engagement, Public Outreach & Biodiversity Conservation unine Université de Neuchâtel

Tutorials establishment
UNIFR unine SIB Swiss Institute of Bioinformatics ETHzürich

Hackathon season 1
unine SIB ETHzürich UNIFR

Legal aspects investigation
unine UNIFR

Hackathon season 2
unine SIB ETHzürich UNIFR

Workshop & conferences season
unine SIB ETHzürich UNIFR

Questions from enduser collection
unine

Connection to existing biodiversity digitization initiatives
unine UNIFR

Data mining for biodiversity conservation and outreach activities.
unine UNIFR

Jan. 2023   Jun. 2023   Jan. 2024   Jun. 2024   Dec. 2024

Swiss SBGI-KM team
- Postdoc UniFr
- Postdoc UniNe
- ETHZ partner
- SIB partner

Partners
UNIFR ● UniFr - COMMONS Lab
unine Université de Neuchâtel ● UniNe - Institute of Biology
ETHzürich ● ETHZ-SIS
SIB Swiss Institute of Bioinformatics ● SIB

How do we exchange information/knowledge ?
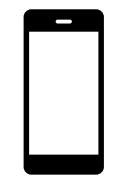
Information and Knowledge Dissemination means in the DBGI

YES — Do I need (a quick) answer or feedback ?

phone call

instant messaging app

email

Zulip DBGI direct message

Zulip DBGI public message

https://dbgi.zulipchat.com/join/mvitqsffadzx7tpcif5oizpi/

ZULIP

Github issues (code related)

GitHub

Github discussions
https://github.com/orgs/digital-botanical-gardens-initiative/discussions/

DBGI KnowledgeGraph

https://www.dbgi.org/dendron-dbgi/
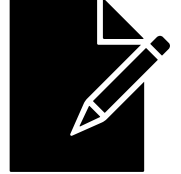
Dendron DBGI Note

Dendron DBGI Open Notebook

Nanopublications
nanobench

Classical Publications

paper notes

Dendron Notebook

DBGI Website
https://www.dbgi.org/

NO — YES

Will I or others re-use this information (the question, the answer or a note) in the future ?