

# The menoci-based Research Data Platform concept for life science consortia at Göttingen Campus

DINI/nestor-AG Forschungsdaten 2022  
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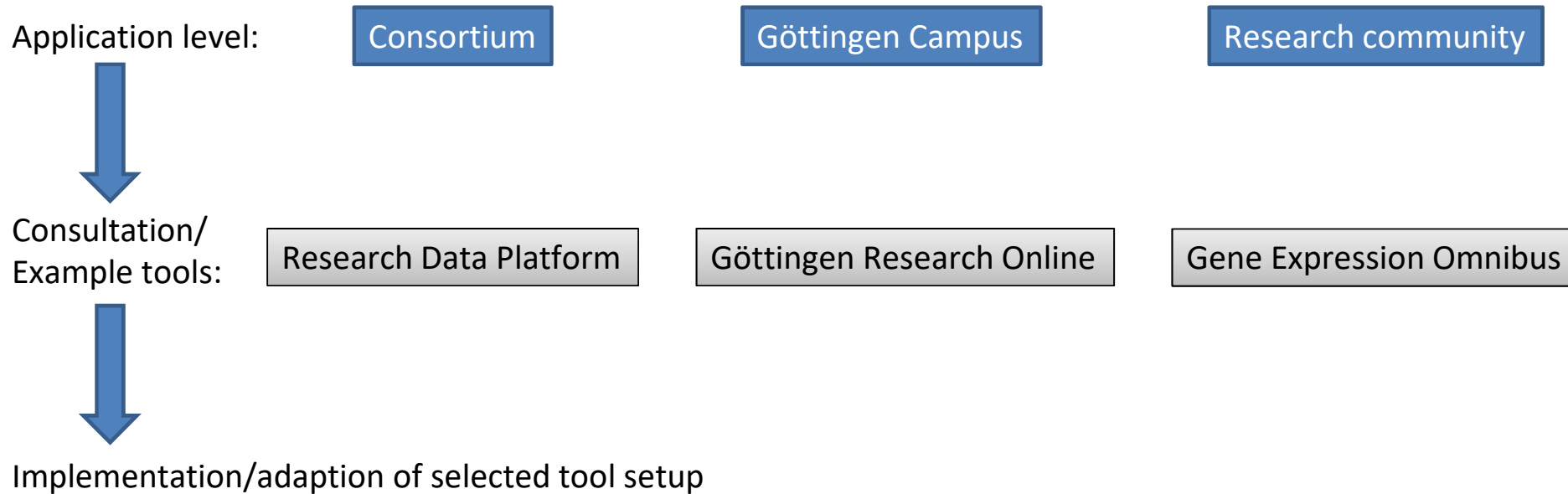
University of Göttingen <https://ror.org/01y9bpm73>

University Medical Center Göttingen <https://ror.org/021ft0n22>

# Research Data Platform motivation

- Need for FAIR tools in biomedical basic research
  - Especially for the research output of large scientific consortia
- Provide management tools to practically support research data handling
- Connect to expert networks to integrate state of the art research data management processes and tools

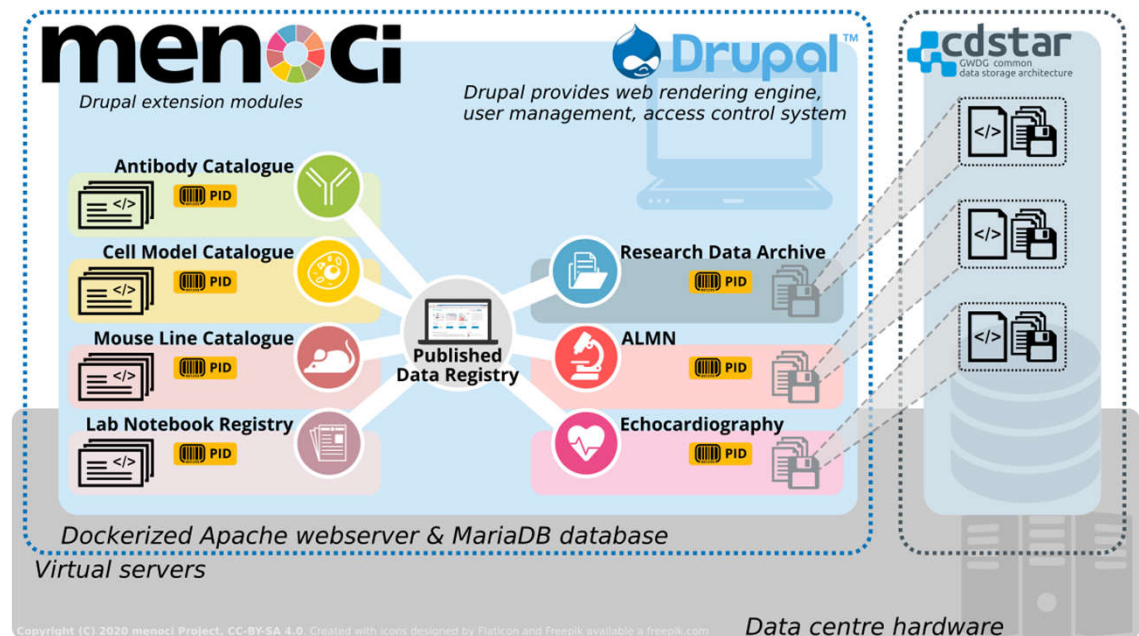
# Research Data Platform concept



# Research Data Platform concept

- FAIR representation of data with menoci
- operation for >12 years
- self-hosted and administrated
  - Restricted support from local data-center for special software requirements

<https://menoci.io/>



# Research Data Platform

## Published Data Registry

Working Groups (AF) RG Fischer, (PZ) RG Zafeiriou, (WZ) RG Zimmermann

Subj: Working Groups (AF) RG Fischer, (PZ) RG Zafeiriou, (WZ) RG Zimmermann

Open Access: Yes

Publ: Subproject RA1.1, RA1.2

Publ: Open Access Yes

Publ: Publication Type Journal Article

Journal: Nature Communications

- NM\_001131019 NCBI nucleotide (NM\_001131019)
- 9606 NCBI taxonomy (human, Homo sapiens)
- 0000-0003-4604-4175 ORCID identifier (Maria Patapia Zafeiriou)
- 0000-0003-0832-9356 ORCID identifier (James Hudson)
- 05xy1nn52 ROR identifier (05xy1nn52, Multiscale Bioimaging)
- 021ft0n22 ROR identifier (021ft0n22, University Medical Center Göttingen)

Linked Antibodies

PID	PID	AG	Type	Antigen symbol	Antibody Registry ID	Name
primary-0229	(AF)	primary	GFAP	AB_2565444	Anti-GFAP Antibody	
primary-0230	(AF)	primary	PAX6	AB_2565003	Purified anti-Pax-6 A	

## Research Data Archive

06.09.2022

Supplement: Zafeiriou - 2022 - 10.1038/s41467-020-17521-w

Description:

Supplemental files for doi:10.1038/s41467-020-17521-w (mbexc\_pdr:66)  
These files are originally deposited here: 1, 2, 3, 4, 5, 6, 7

Files

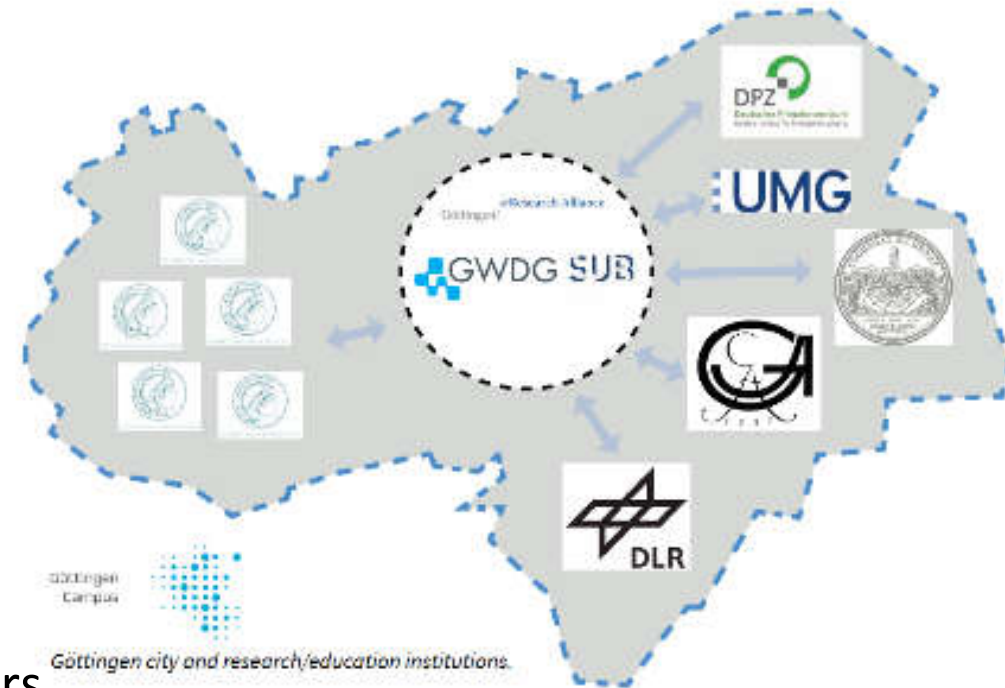
- Zafeiriou - 2022 - 10.1038\_s41467-020-17521-w.zip [49.72 MB]

Created: 2022-09-06 18:01:47  
Last modified: 2022-09-06 18:01:48  
Checksum: cac8a5f5f739eb6d71f0cdee57146602

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# Göttingen eResearch Alliance

- Run **jointly** by Library and IT-Centre
  - GWDG: ~150 people, 30 in eResearch
  - SUB: ~450 people, 40 in eResearch
- Close **cooperation** with
  - Department of Medical Informatics
  - Research Department
- **Brokering-Office** with currently 5 staff members
  - Team from different disciplines with eResearch expertise
  - Actual services and projects in individual organisations
  - Network with eResearch experts across the campus
  - Translate discipline-specific requirements into information-infrastructure tasks



<https://www.eresearch.uni-goettingen.de/>

# Göttingen eResearch Alliance

## Consulting

- Data management requirements
- Data integration
- Data policies
- DMPs
- Legal aspects
- Expert network
- ...

## Training

- Data management
- eResearch topics
- Digital literacy
- Expert network
- Open Science
- ...

## Digital Services

- Storage
- Computing
- Communication
- Cooperation
- Project participation
- Foster reuse of solutions
- Sustain solutions
- Development of new services
- ...

# Göttingen Research Online

## GRO.data: *Cross-linking citable data*



GRO.publications Add Data ▾ Se
GÖTTINGEN RESEARCH ONLINE  
DATA

**Search**

Working Group:

External ID:

Publication Type:

**Description** Data for Figures 3,4,5 and 6. All data files are standard .mat files . These files can be opened in MATLAB.

**Subject** Medicine, Health and Life Sciences; Physics

**Related Publication** Chizhik, Alexey I., et al. "Metal-Induced energy transfer for live cell nanoscopy." Nature Photonics 8.2 (2014): 124-127. doi: <https://doi.org/10.1038/nphoton.2013.345>

**License/Data Use Agreement** CC0 1.0

Files | Metadata | Terms | Versions

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**Citation Metadata**

**Dataset Persistent ID** doi:10.25625/NIDERO

**Publication Date** 2020-12-11

**Title** GIET and MIET

**Author** Ghosh, Arindam (Third Institute of Physics, University of Göttingen)  
Enderlein, Jörg (Third Institute of Physics, University of Göttingen) - ORCID: <https://orcid.org/>

Title	Authors	Journal	Year	DOI	Other IDs
<a href="#">Caveolin3 Stabilizes McT1-Mediated Lactate/Proton Transport in Cardiomyocytes</a>	Peper J, Kownatzki-Danger D, (...), Lehnart SE	Circulation Research	2021	<a href="https://doi.org/10.1161/circresaha.119.316547">10.1161/circresaha.119.316547</a>	<a href="#">33486968</a>
<a href="#">Multiscale photonic imaging of the native and implanted cochlea</a>	Keppeler D, Kampshoff CA, (...), Moser T	Proceedings of the National Academy of Sciences of the United States of America	2021	<a href="https://doi.org/10.1073/pnas.2014472118">10.1073/pnas.2014472118</a>	<a href="#">33903231</a>
<a href="#">Graphene- and metal-induced energy transfer for single-molecule imaging and live-cell nanoscopy with (sub)-nanometer axial resolution</a>	Ghosh A, Chizhik AI, Karedla N, Enderlein J	Nature Protocols	2021	<a href="https://doi.org/10.1038/s41596-021-00558-6">10.1038/s41596-021-00558-6</a>	

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# GRO.publications

## Cross-linking consortial publication records

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GÖTTINGEN RESEARCH ONLINE PUBLICATIONS

Publikationen   Forschende   Organisationen   Weitere ▾

URL	<a href="http://dx.doi.org/10.1073/pnas.2014472118">http://dx.doi.org/10.1073/pnas.2014472118</a>
Pages	e2014472118
Issue	18
Volume	118
Journal Abbreviation	Proc Natl Acad Sci U S A
Authors	Keppeler D, Kampshoff CA, Thirumalai A, Duque-Afonso
First Author	Keppeler D
Last Author:	Moser T

### Multiscale photonic imaging of the native and implanted cochlea

*Eine Publikation (Zeitschriftenartikel: Originalarbeit) der Georg-August Universität Göttingen.*  
Spring zur: Zitieren & Links | Details

#### Zitiervorschlag

Multiscale photonic imaging of the native and implanted cochlea  
Keppeler, D.; Kampshoff, C. A.; Thirumalai, A.; Duque-Afonso, C. J.; Schaeper, J. J.; Quilitz, T. & Töpperrwien, M. u.a. (2021)  
*Proceedings of the National Academy of Sciences of the United States of America*, 118(18) art. e2014472118.

GRO Ansicht
APA
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#### Links zur Publikation

GRO.publications Link

#### Alternativen

DOI PMID PMC

#### External Resources

pnas.org...ll.pdf Article fulltext

10.25625/PDTX5K GRO.data identifier (10.25625/P

gro-2/87093 GRO.publications identifier

#### Details

**Autor(en)** Keppeler, Daniel; Kampshoff, Christoph A.; Thirumalai, Anupriya; Duque-Afonso, Carlos J.; Schaeper, Jannis J.; Quilitz, Tabae; Töpperrwien, Mareike; Vogl, Christian; Hessler, Roland; Meyer, Alexander; Salditt, Tim; Moser, Tobias

**Zusammenfassung** The cochlea of our auditory system is an intricate structure deeply embedded in the temporal bone. Compared with other

#### Export Metadaten

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EndNote
BibTeX
RefWorks

[https://mbexc.uni-goettingen.de/literature?ext\\_id=48](https://mbexc.uni-goettingen.de/literature?ext_id=48)

## Upscaling as a challenge

- Menoci operation with multiple instances (e.g. consortia at Göttingen Campus)
  - Started as project for one consortia, now used for several consortia
  - Increasing maintenance effort
- Orchestration of multiple instances requires efficient measures
  - **Goal:** diminish time-consuming operational tasks
  - Including e.g. updating routines and administrative tasks

# Methods

- Use GitLab CI/CD pipelines to automate:
  - Building of Docker images:
    - menoci base image
    - menoci consortia images (based on menoci base image)
  - Deploying Docker images to VMs
- Dedicated runner executes pipelines
  - Runner itself is encapsulated in a Docker container

## Remaining challenges

- IT personnel resources dedicated to server operation for research are largely limited in academia
  - optimization of basic server managing tasks is time consuming
  - benefits often merely visible for the target user groups
- although different menoci instances share a wide range of their components
  - each use case requires an adapted setup of modules/ interfaces with additional digital infrastructures
  - This complicates the construction of automation pipelines
- version leaps of major IT components (e.g. Drupal) require large additional work loads that are hardly compatible with available resources



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**University Medical Center Göttingen**

[ror.org/021ft0n22](https://ror.org/021ft0n22)