

# Research Data Management and Central Service Facilities: eResearch Services for researchers at UMG

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*Ethikkommission, UMG*

**Philipp Wieder**

*GWDG*

# Agenda

1. Management of research data
2. The Göttingen eResearch Alliance
  - 2.1. Division Library Medicine (SUB)
  - 2.2. Computing-Services (GWDG)
3. Core facilities at the UMG
4. Ethikkommission at the UMG
5. Data protection officer at the UMG
6. Advisory services at the Department of Medical Informatics
7. Services at the Institute for Medical Statistics
8. Services of the central UMG Biobank

# Example: CRC 1002

## Electronic laboratory notekeeping



### Paper lab notebook

OCTOBER 15 1998

DIGEST:

2 µl p116-Mer25    2.5 µl p6EM6.2HA-Epo24/AA  
 4.5 µl UNIVERSAL B    4.5 µl UNIVERSAL B  
 22.5 µl H<sub>2</sub>O    22.5 µl H<sub>2</sub>O  
 0.5 µl BstHI    0.5 µl BstHI  
 0.5 µl EcoRI    0.5 µl EcoRI  
 → D CIP

LIGAS:

6 µl p116-Mer25  
 2 µl Epo24/AA / H<sub>2</sub>O  
 1.5 µl H<sub>2</sub>O  
 3 µl T4-LIG B  
 0.5 µl T4-LIGASE

AND TRANSFORM AFTER 4h OF LIGATION

DIGEST TEMPLATE-DNA FOR MAKING RNA:



### Electronic lab notebook (ELN)

Close Save as Template Delete Sign

Home / AG Lehnart Demo / Experiments / Experiment 1 based on Template AG Lehnart STED Microscopy Image Acquisition

Name: Experiment 1 based on Template AG Lehnart STED Tags: di-8-ANEPPS, STED, Microscopy, Fluorescence SD381

Microscopy Image Acquisition

Publication Tag Search... AND OR Add Go

Wagner et al. 2012

**Signal**

Audit: My RSpace Activity  
 You can filter this audit by Actions and Date Range  
 Get Audit Report

You found 482 hits.

Dye	Time	User	Action	Type	Resource	Name
di-8-ANEPPS	2016-04-21 15:38:12	Dr. Harald Kusch	READ	RECORD	SD381	Experiment 1 based on Template AG Lehnart STED Microscopy Image Acquisition
	2016-04-21 12:21:12	Dr. Harald Kusch	READ	RECORD	SD366	Experiment 1 based on Template - AG Lehnart - Western Blot - Immuno detection for Western Blotting
Excitation in nm	2016-04-21 11:54:56	Dr. Harald Kusch	DELETE	RECORD	SD499	Untitled document
	2016-04-21 11:54:56	Dr. Harald Kusch	DELETE	RECORD	SD505	Untitled document
laser	2016-04-21 11:42:08	Dr. Harald Kusch	READ	RECORD	SD353	Template - AG Lehnart - Western Blot - Immuno detection for Western Blotting

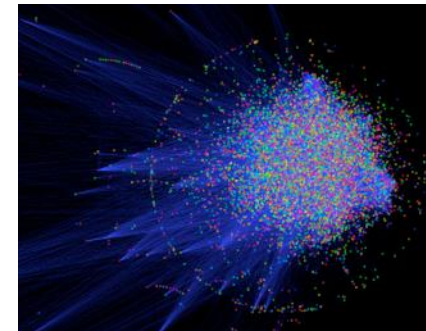
# 1. Management of Research Data

Dr. Harald Kusch

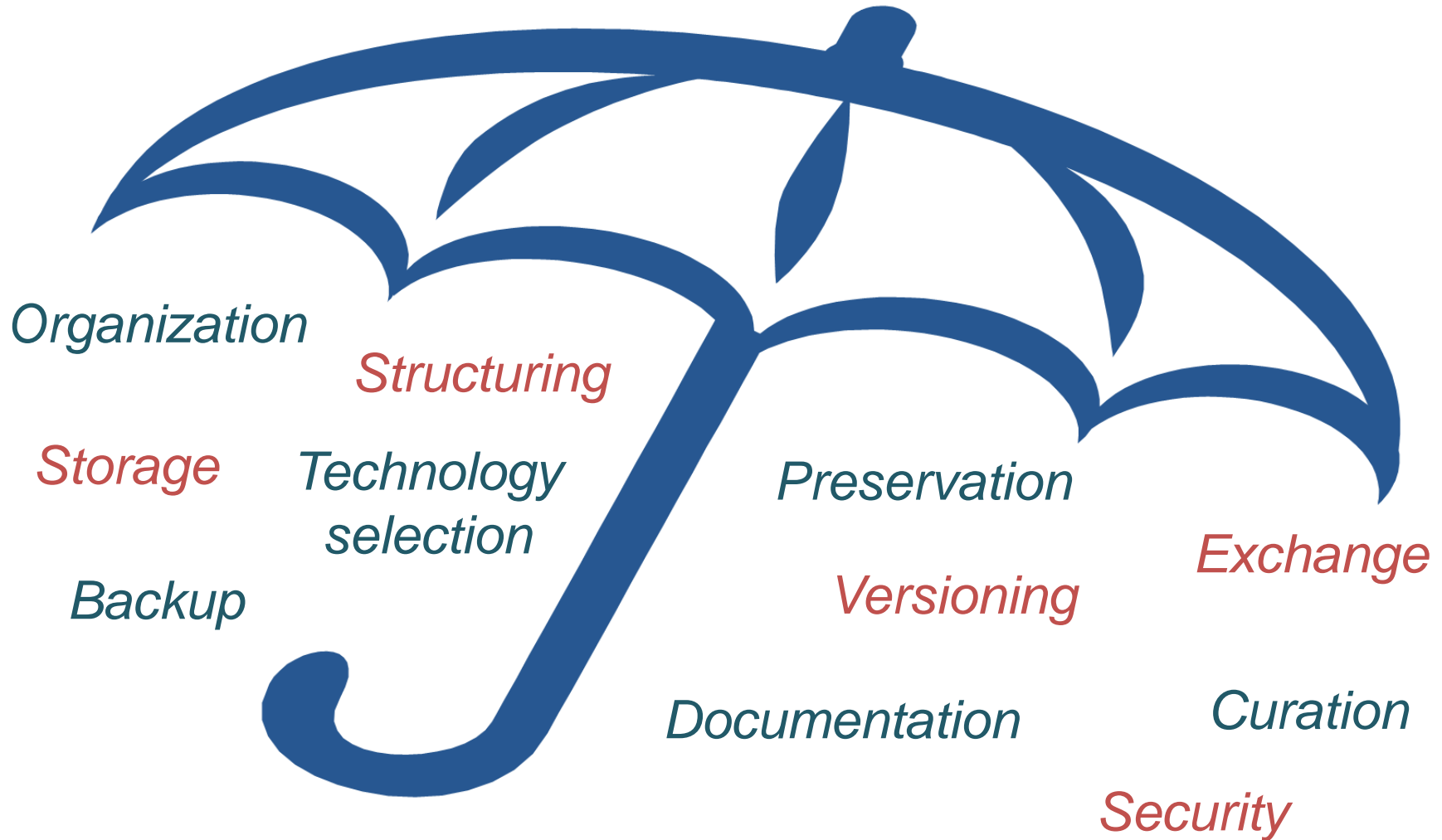


Data are **representations** of observations, objects, or other entities used as **evidence** of phenomena for the purposes of research or scholarship.

*(Christine Borgmann 2014)*



# What is research data management?



# Basic questions I

## Organization and storage

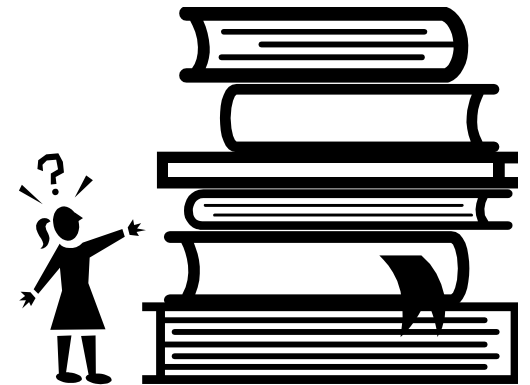
- Do you find what you need when you need it?
- Are your data stored safely? Have you implemented a backup plan?



# Basic questions II

## Documentation

- Is the meaning of all the data and processing steps known?
- Is the information still understandable, when you revisit the data at a later time?





# Thinking ahead...

## Curation and sharing

- Is there a long term plan for the data?
- Can the data be made available for other researchers?
  - Funder's requirements
- Is there a repository or archive where you can store your data?
- What do you need today to support this and ease your daily work?



# Research Data Policy of Göttingen University incl. UMG

- Officially issued on 28th August 2014
- One of the first German universities with such a policy

Current page: [Homepage](#) [28. August 2014: Res...](#) [Aa+](#) [Aa-](#) [Search](#) | [Deutsch](#)

28. August 2014: Research data policy of the Georg-August University Goettingen (incl. UMG)

**Topics addressed:**

- **Research Data, Research Data Management and its purposes**
- **Data Management Plans**
- **Support, training and provision of services**
- **Storage location**
- **Ethical and legal standards**
- **Open Access**

- **eResearch Alliance: support and advice on the implementation of the policy for the Göttingen Campus**

Source: <http://www.uni-goettingen.de/en/488918.html>

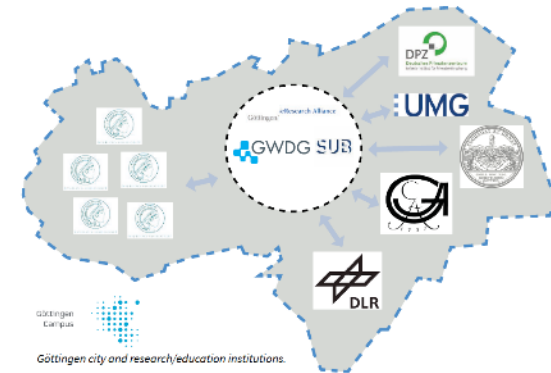
eResearch = *enhanced*Research

## **2. Göttingen eResearch Alliance**

Timo Gnadt

# eResearch Alliance

- Run **jointly** by Library and IT
  - GWDG: ~120 people, 30 in eResearch
  - SUB: ~450 people, 40 in eResearch
- Close **cooperation** with
  - Department of Medical Informatics
  - Research Department
- **Brokering-Office** with currently 7 staff members
  - Team from different disciplines w/ eResearch expertise
  - Actual services and projects in individual organisations
  - Network w/ eResearch experts across the campus
  - Translate discipline-specific into information- infrastructure requirements



# eRA Services

## Consulting

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

## Training

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

## Digital Services

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

# Open Science Göttingen

- Campus wide network on promoting Open Science
- Göttingen Open Science MeetUp
  - Open Science principles
  - Teaching
  - Data science
- “HackyHour”: Meet, discuss, experiment together with experts on a given topic

<http://etherpad.gwdg.de/p/OpenScienceGoe>

<https://hackyhour.github.io/Goettingen/>



# GÖTTINGEN RESEARCH ONLINE

## Publications

Publication  
data  
management

*Dspace-CRIS*

## Data

Research  
data  
repository

*Dataverse*

## Instruments

Large  
equipment  
portal

*openIRIS*

## Plan

Data  
management  
planning

*RDMO*

...

more  
services

# Göttingen / eResearch Alliance

Search here [input field]

- Data Management
- Tools & Services
- eResearch
- FAQ
- News
- Blog
- About



## Research Life Cycle

Explore our offers by clicking on the topics below:  
 Idea  
 Project proposal support  
 Data management planning  
 Expert network  
 Research  
 Workshops & Trainings  
 CT...

More

The Göttingen eResearch Alliance is an initiative of the University of Göttingen to assist all researchers on the Göttingen Campus with eResearch related questions and data management issues. As a central point of contact for researchers, research associations and faculties the eResearch Alliance represents the University's joint forces of the central infrastructure providers, the Göttingen State and University Library (SUB) and the Computing and IT Competence Centre (GWDG).

## Your research project! | Your data! | Our services!

We understand eResearch as *enhanced research*, which to us means an optimized usage of **digital technologies and methods for innovative research**. We offer information, personal advice and support for key issues related to digital research through all phases of the **research life cycle**.



### Ideas

- Project proposal support
- Data management planning
- Expert network

more



### Research

- Workshops & Trainings
- ICT services
- Visualisation & Exploration
- Data strategy implementation

more



### Results

- Persistent Identification
- Data publication
- Long term archiving

more

## Guidelines

- Policies on Research Data and Open Access as "Amtliche Mitteilung" (PDF, German only)
- Research data policy of the Georg-August-University Göttingen (incl. UMG) - English version
- Open Access policy of the Georg-August-University Göttingen (incl. UMG) - English version

## News

- 10.07. - 21.07.2017: Data Science Summer School
- On campus you can follow us now on RocketChat+
- 04.05.2017: Info event on research data management and research services at UMG
- Job posting: GRAcE - Göttingen Research Data Exploratory - management parameters derived from the Göttingen eResearch Alliance
- 09.04.2017: Start of the Data Science Game 2017



## **2.1 Division Library Medicine (SUB)**

Dagmar Härter



NIEDERSÄCHSISCHE STAATS- UND  
UNIVERSITÄTSBIBLIOTHEK GÖTTINGEN

## **Research, Data, Management: Data management basics and services for your daily research routine at the UMG**

Angebote der Bereichsbibliothek Medizin  
Support and Services at the Medical Library



GEORG-AUGUST-UNIVERSITÄT  
GÖTTINGEN

# BBM / SUB Göttingen

SUB Göttingen > SUB aktuell English

**SUB aktuell**

- Neu hier? ▾
- Kontakt ▾
- Standorte & Raumangebote ▾
- Ausleihen & Verlängern ▾
- Kopieren & Digitalisieren ▾
- Fachinformation ▾
- Sammlungen & Historische Bestände ▾

**SUB aktuell**

**Literaturverwaltung mit Zotero: freie Plätze im Kurs am 16.3.2017**

Wir bieten Ihnen in der Zentralbibliothek Kurse zum freien und plattformunabhängigen Literaturverwaltungsprogramm Zotero an. In der Veranstaltung am Donnerstag, den 16.3.2017 von 16:15 - 17:45 Uhr sind noch Plätze frei, bitte melden Sie sich an. [mehr >](#)

**Erste Coffee Lecture im Oeconomicum am 14.3.2017**

Am zweiten Dienstag im März findet im Foyer der Bereichsbibliothek Wirtschafts- und Sozialwissenschaften eine Coffee Lecture (Kaffee und Kurzvortrag) statt. [mehr >](#)

**Freie Plätze im Kurs Allgemeine Literaturrecherche am 15.3.2017**

**Beliebte Seiten**

- Benutzerkonten
- Bücherwunsch für Studierende
- Erwerbungsanschläge
- Öffnungszeiten
- Zugang zu E-Journals & E-Books
- Die SUB im Dialog
- +49 551 39-5231
- Frag die SUB
- Ihre Meinung

At [www.sub.uni-goettingen.de](http://www.sub.uni-goettingen.de) you can find all information regarding the SUB, including all service offers online and offline

# Accessing electronic resources from home?

**Elektronische Zeitschriftenbibliothek**  
Niedersächsische Staats- und Universitätsbibliothek Göttingen

GEORG-AUGUST-UNIVERSITÄT GÖTTINGEN  
NIEDERSÄCHSISCHE STAATS- UND UNIVERSITÄTSBIBLIOTHEK GÖTTINGEN | SUB

Zugangs- und Benutzungshinweise / Nutzungsbedingungen **Aktuelle Informationen zu Zeitschriften von Elsevier und Cell Press** Datenbank-Infosystem (DBIS)

**Zeitschriften**  
Zeitschriftensuche  
Liste nach Fachgebiet  
Liste nach Alphabet  
Liste neuer EZB Titel

**Bibliothek**  
Ansprechpartner  
Zeitschrift vorschlagen  
Bibliothek auswählen

**Information & Service**  
Über die EZB  
Hilfe zur EZB  
EZB Dienste

Zeitschrift   Erweiterte Suche

**Zeitschriftenliste nach Fachgebiet**

Fachgebiet	Anzahl
Allgemeine und vergleichende Sprach- und Literaturwissenschaft, Indogermanistik, Außereuropäische Sprachen und Literaturen	3143
Allgemeines, Fachübergreifendes	7533
Anglistik, Amerikanistik	1404
Archäologie	1217
Architektur, Bauingenieur- und Vermessungswesen	2319
Bildungsgeschichte	412
Biologie	5597
Chemie und Pharmazie	2926
Elektrotechnik, Mess- und Regelungstechnik	1581
Energie, Umweltschutz, Kerntechnik	2345
Ethnologie (Volks- und Völkerkunde)	1556
Geographie	1283
Geowissenschaften	2240
Germanistik, Niederländische Philologie, Skandinavistik	439
Geschichte	4817
Informatik	4041
Informations-, Buch- und Bibliothekswesen, Schrift- und Handschriftenkunde	1575
Klassische Philologie, Byzantinistik, Mittellateinische und neugriechische Philologie, Neulaten	518
Kunstgeschichte	2039
Land- und Forstwirtschaft, Gartenbau, Fischereiwirtschaft, Hauswirtschaft, Ernährung	4037
Maschinenwesen, Werkstoffwissenschaften, Fertigungstechnik, Bergbau u. Hüttenwesen, Verkehrstechnik, Feinwerktechnik	2350
Mathematik	2419
Medien- und Kommunikationswissenschaften, Publizistik	1422
Medizin	14989

**Die Volltexte der Zeitschriften sind**

- frei zugänglich
- für Angehörige der Uni Göttingen freigeschaltet
- nur für einen Teil der erschienenen Jahrgänge zugänglich
- nicht zugänglich, nur Inhaltsverz./Abstracts

[Nutzungsbedingungen](#)

You need to register once as user of the library system with your UMG staff card and receive a password

On the SUB homepage you can then access all electronic resources via the search bar, if you are logged in with your credentials (user number and password)

# Directly in the medical library: Courses in small groups on literature research and management

## Lernunterstützende Kursangebote



**Zotero Einsteigerkurs:**  
Literatur sammeln, verwalten, zitieren



**PubMed Kurs:**  
Suche nach medizinischer Fachliteratur



**Literaturrecherche und Suchstrategien:**  
Wo und Wie finde ich Was?



**Endnote für Einsteiger:**  
Literaturverwaltung für den  
wissenschaftlichen Arbeitsprozess

- At various dates and times of day
- Personal and individual consultation
- Provision of extensive course material
- All courses also available for self-learning as document downloads on the SUB homepage

*Termine und Anmeldung hier an der Infotheke!*

# Online offers for download:



Göttingen State and University Library > Learnii

News

First-time visitor? ▾

Contact ▾

Locations & facilities ▾

Borrowing & renewing ▾

Copying & digitising ▾

Subjects ▾

Collections & Historical Holdings ▾

Digital library ▾

Electronic publishing ▾

Learning & teaching ▴

Academic work: tools and methods

Courses & guided library tours

**Self-study materials**

Individual & group work spaces

Textbooks & semester

- [Bibliotheksralyie für Studierende der Politik-, Sozial- und Wirtschaftswissenschaften](#)
- [Kursunterlagen zum Herunterladen \(PDF 514 KB\): Einführung in die Literaturrecherche für Studierende der Sportwissenschaften](#)
- [Von der Literaturliste zum Buch: Information für Studienanfängerinnen und Studienanfänger der Wirtschaftswissenschaften \(PDF 1,5 MB\)](#)
- [Zotero-Kursunterlagen zum Herunterladen: Einführung in Zotero mit sozialwissenschaftlichen Beispielen](#)

## Medizin

- [Bibliotheksralyie für die Bereichsbibliothek Medizin \(PDF 376 KB\)](#)
- [Endnote-Selbstlernkurs für Medizin-Studierende zum Herunterladen](#)
- [Endnote Self-Study Material for Medical Students \(PDF 648 KB\)](#)
- [Literaturrecherche für Medizin-Studierende: Wo Sie finden, was Sie suchen! \(PDF 1,3 MB\)](#)
- [PubMed for medical students \(PDF 2,5 MB\)](#)
- [PubMed für Medizin-Studierende \(PDF 3,2 MB\)](#)
- [Zotero-Kursunterlagen zum Herunterladen: Zotero-Selbstlernkurs für Medizinstudierende](#)
- [Zugriffsmöglichkeiten auf Volltexte von Zeitschriftenaufsätzen für Medizin-Studierende \(PDF 2,0 MB\)](#)

Sitemap Kontakt Impressum Datenschutzhinweis (Opt-Out)

Click on  
„Learning & Teaching“  
-> „Self-study materials“



Then scroll down to  
„Medicine“

Feedback Short URL

### SUB Göttingen

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- Öffnungszeiten
- Bücherwunsch für Studierende
- Kurse & Führungen
- SUB bei Facebook
- SUB bei Twitter
- SUB bei Instagram
- Ihre Meinung
- Frag die SUB

### Universität Göttingen

- Universität Göttingen
- UniVZ
- Lageplan zur Barrierefreiheit
- eCampus mit Stud.IP
- studIT Online Support
- Göttinger Bibliotheken
- Mensa-Speisepläne
- GWDG

### Stadt Göttingen

- Willkommen in Göttingen
- Stadtplan
- Verkehrsverbindungen
- studieren-in-goettingen.de

Letzte Änderung 25.10.2018

# Open Access consultation

Bestände ▾  
Digitale Bibliothek ▾  
Elektronisches Publizieren ▲  
Publizieren  
Universitätsverlag Göttingen  
Open Science  
**Open Access**  
Wo finde ich was?  
Open-Access-Publikationsfonds  
Verlagsvereinbarungen  
Rechtliches  
Lernen & Lehren ▾  
Projekte & Forschung ▾  
Spenden & Fördern ▾  
Wir über uns ▾  
SUB A - Z

GEORG-AUGUST-UNIVERSITÄT GÖTTINGEN

Webseitensuche Letzte Änderungen Sitemap Kontakt Impressum Datenschutzhinweis (Opt-Out) Feedback Short URL

## Open Access an der Universität Göttingen

Die Georg-August-Universität Göttingen (einschließlich der Universitätsmedizin) hat 2016 eine neue Open-Access-Leitlinie (PDF 1,9 MB), Seite 1895 - 1896, beschlossen und „verfolgt das Ziel, die wissenschaftlichen Ergebnisse ihrer Wissenschaftler und Wissenschaftlerinnen möglichst breit öffentlich zugänglich und nutzbar zu machen. Open Access bereitgestellte Publikationen lassen sich ohne Zugriffsbeschränkungen nutzen. Dies befördert unmittelbar und nachhaltig Forschungs- und Innovationsprozesse in Wissenschaft, Wirtschaft und Gesellschaft. ... Mandate wie das der Europäischen Kommission und des Europäischen Forschungsrates machen die Umsetzung von Open Access für alle geforderten Projekte verbindlich. Diese Leitlinie setzt einen allgemeinen Empfehlungsrahmen für Open Access an der Universität und ergänzt die von der Universität Göttingen verabschiedete Leitlinie zu Forschungsdaten.“  
Die Leitlinie aus dem Jahr 2016 ersetzt die [Open-Access-Resolution \(PDF 248 KB\)](#) der Universität Göttingen von Dezember 2005.

Weitere Unterstützung bietet das Angebot der Göttingen eResearch Alliance. Sie berat Themen wie z. B. Forschungsdatenmanagement, Entwicklung von Datenstrategien für Forschungsprojekte u. ä. Darüberhinaus betreibt die SUB Göttingen ein Open-Access-Referat sowie einen Publikationsfonds. Sie engagiert sich in nationalen und internationalen Projekten wie [Confederation of Open Access Repositories \(COAR\)](#) und [OpenAIRE](#).

Das EU-Hochschulbüro der Universität Göttingen informiert auf seiner Internetseite detailliert über den [Open-Access-Pilot der Europäischen Union](#).

### Auf unseren Webseiten finden Sie Informationen zu Fragestellungen wie

- Open Access in den Disziplinen: [Präsentation zu Open Access in der Universitätsmedizin Göttingen \(PDF 4,5 MB\)](#)
- Gibt es für das Publizieren in Open-Access-Journalen oder bei Verlagen Verlagsvereinbarungen oder Publikationsbeihilfen?
- Ich hatte der SUB Göttingen für meine Publikationen eine Rechteübertragung vor 2007 übertragen und möchte hierzu nochmals die Infos nachlesen?
- [Wo finde ich was](#) zum Thema Verlagspolicies?

Sabine Witt



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37073 Göttingen  
Germany  
+49 551 39-5290 (Tel.)  
witt@sub.uni-goettingen.de

On the SUB homepage, click on „Electronic Publishing“ -> „Open Access“

Here you can find all our service and offers on the topic of publishing Open Access

## Also to use for free: The library's makerspace



3D printer for testing purposes

3D anatomy table for virtual dissection





## (Almost) Always there for you:

- **Monday – Friday from 8 – 24**
- **Saturday, Sunday and Holidays from 8/10 – 22/20**
- **By phone: 39-8395**
- **By email: [bbmed@sub.uni-goettingen.de](mailto:bbmed@sub.uni-goettingen.de)**



## **2.2. Computing Services (GWDG)**

Dr. Philipp Wieder



Erhalten Sie dynamische Rechenleistung, Anwendungen oder IT-Dienste, die mit Ihren Anforderungen wachsen.

# GWDDG CLOUD SERVER

Philipp Wieder

Gesellschaft für wissenschaftliche Datenverarbeitung mbH

- **Founded 1970 – Public authority: Göttingen University & Max Planck Society**
- **Operation of Computing Center, parallel computers, networks, Campus-WLAN**
- **125 Employees, > 20.000 WLAN devices online per day, certified acc. to ISO 9001**
- **IT-research institution**
  - Leadership and Participation in national and international research projects
  - Research foci:
    - Data management & electronic research infrastructure
    - Virtual research environment & innovative digital tools
    - Data analysis, visualisation and big data technologies
    - Cloud Computing
    - Next-Generation Networking

# Portfolio

## Services for the Sciences



NEWS SERVICES × RESEARCH & EDUCATION ABOUT US SUPPORT

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### Storage Services

- Backup
- Data Archiving
- GWDG CrashPlan PROe
- File Service
- GWDG ownCloud
- Cryptshare

### Email & Collaboration

- E-Mail Service (MS Exchange 2010)
- Spam and Virus Filtering
- Mailing Lists
- MS SharePoint
- Managed Services
- Project Management Service
- Etherpad
- ShareLaTeX
- Rocket.Chat
- CodiMD
- GitLab

### Server Services

- Virtual Server
- Hosting/Housing of Servers
- Web Hosting
- GWDG Cloud Server
- FTP Server
- Puppetserver

### Network Services

- IP Address Management System
- Cable and Route Management System
- System Monitoring
- Setting up eduroam
- Integration into the Active Directory
- User Management with OpenLDAP
- Client Management
- Client-Management for macOS and iOS

### Application Services

- Persistent Identifier (PID)
- High Performance Computing
- Library Service Aleph
- Database Service Oracle
- Database Service MySQL
- Database Service PostgreSQL
- Application and Registration Services
- Plagiarism Prevention
- Online Surveys
- Bioinformatics Programs
- Statistics Programs
- Jupyter

### IT Security

- Vulnerability Scans on Network-attach...
- Public Key Infrastructure (PKI)
- Authentication and Authorization Infra...
- Virus Protection (Sophos Update Serv...

### General Services

- Identity Management
- Courses
- Software and Licence Management
- Videoconferencing
- Computer Lending Pool
- Print & Scan Services

### IT Consulting

- Scientific Data Management
- IT Security
- Hardware Purchase
- Apple Support Centre
- Establishing Directory Services (AD, L...
- Planning of Data Transmission Networks





# Example Infrastructure GWDG Cloud Server








„Virtual“ Computer for researchers, working groups and projects

- Computer per self-service
- Suited for arbitrary applications
- Allocatable in different sizes
- Complete control over virtual computer
- Own IP address
- Operated in Göttingen













Our Private Cloud for your dynamic, safe and scalable computing power

Server	Processor	Memory	IP Address
 1 / 3	 2 / 12	 8.0 / 24.0 GB	 1 / 3
Create your own virtual machines and use up to 3 servers for your applications	Choose the computing strength of your machine and assign up to 12	Assign up to 24.0 GB of memory to your virtual machine to match your	Grant world wide access to your virtual machine by assigning a public ip

Compute optimized

<b>c1.small</b>  2 Cores 2 GB RAM 20 GB Disk	<b>c1.medium</b>  4 Cores 4 GB RAM 40 GB Disk	<b>c1.large</b>  8 Cores 8 GB RAM 80 GB Disk	<b>c1.xlarge</b>  16 Cores 16 GB RAM 160 GB Disk	<b>c1.xxlarge</b>  32 Cores 32 GB RAM 320 GB Disk
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Images

 CentOS CentOS 6.6 Server x86_64	 CentOS CentOS 7.1 Server x86_64	 Debian Debian 7.8 Server x86_64
 Fedora Fedora 20 Desktop GNOME x86_64	 Fedora Fedora 20 Desktop KDE x86_64	 Fedora Fedora 20 Server x86_64
 openSUSE openSUSE 13.1 Desktop GNOME x86_64	 openSUSE openSUSE 13.1 Desktop KDE x86_64	 openSUSE openSUSE 13.1 Server x86_64
 Scientific Linux Scientific Linux 6.8 Server x86_64	 Scientific Linux Scientific Linux 7.1 Server x86_64	 Ubuntu Ubuntu 12.04.5 LTS Server x86_64

# Example collaborative work

A selection



## Kollaboration

- Hosted, private wiki (*eMail to [support@gwdg.de](mailto:support@gwdg.de)*)
- Own Mailinglists: [www.gwdg.de](http://www.gwdg.de)
- Cooperative work on texts: [etherpad.gwdg.de](http://etherpad.gwdg.de)
- Sharing documents: [owncloud.gwdg.de](http://owncloud.gwdg.de) / cryptshare
- Online work on Office documents: [owncloud.gwdg.de](http://owncloud.gwdg.de)
- Live cooperative work on LaTeX-Documents: [sharelatex.gwdg.de](http://sharelatex.gwdg.de)
- Internetchats (like ICQ): [jabber.gwdg.de](http://jabber.gwdg.de)
- Web- / Team-Chats (like Slack): [chat.gwdg.de](http://chat.gwdg.de)
- Software development / Project management: [gitlab.gwdg.de](http://gitlab.gwdg.de)

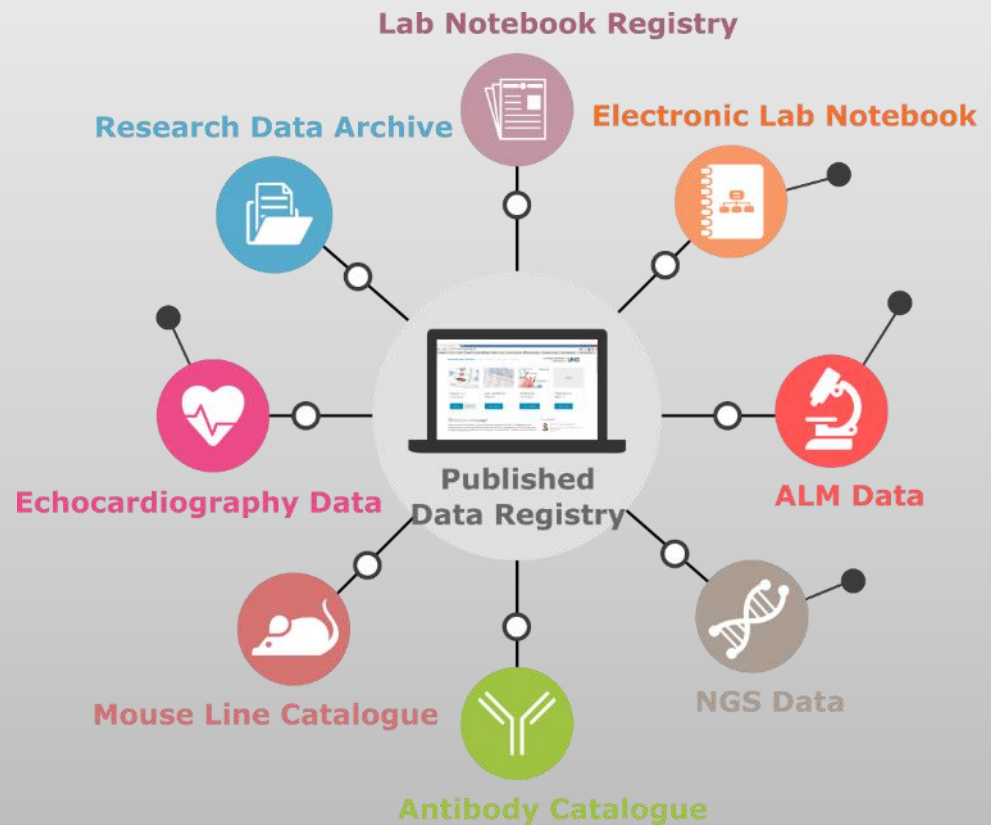
## Administration of projects and software development

- Web-based project management with large choice of functionalities for supporting the project life cycle
- Features
  - Wiki
  - Management of tasks
  - Time management
  - Document repository
  - User management
- Integrated Git- and SVN-Repository for software development
- Integration into own development environment possible
- Project areas, in which you can create or manage projects by yourself
- [projects.gwdg.de](http://projects.gwdg.de)



Support of researchers from different disciplines

- **Goals**
  - Traceability
  - Transmission of data to community repositories
- **Collection & Documentation of**
  - Publications
  - ALM data
  - NGS data
  - Supersonic data
- **Connection of**
  - Publications
  - Antibodies
  - Lab notebooks
  - Mouse-Genome-Lines



## Your personal contact with us



+49 551 201 1523

Contact our hotline



[support@gwdg.de](mailto:support@gwdg.de)

Send us an email and we will contact you soon



[support.gwdg.de](https://support.gwdg.de)

Check your tickets  
(Account required)



[www.gwdg.de/docs](https://www.gwdg.de/docs)

[www.gwdg.de/faq](https://www.gwdg.de/faq)

Docs & FAQ



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# **3. Ethikkommission at the UMG**

Doris Wettschereck

Information event „Research Data Management and Central Service Facilities at the UMG“

- ▶ Office of the “Ethik-Kommission”  
(ethics committee)
- ▶ Where? → Von Siebold-Str. 3
- ▶ When? → Monday-Friday  
→ 9:30-12:00



Info-Veranstaltung  
"Datenmangement und Service-  
Einheiten an der UMG"

# „Ethik-Kommission“

- ▶ Purpose of the Ethik-Kommission (What does the Ethik-Kommission do?)

→ The Ethik-Kommission is an independent body whose purpose is to evaluate the ethical and legal aspects of biomedical research involving human subjects. As laid down in the Declaration of Helsinki, also research projects **involving patient data** have to be approved by an research ethic committee.

- ▶ Responsibility of the Ethik-Kommission of the UMG

→ The Ethik-Kommission of UMG is responsible for members and dependants of the Medical Faculty of Göttingen and its teaching hospitals.

# Ethik-Kommission

- ▶ Method of operation (How does the Ethik-Kommission work?)
  - The Ethik-Kommission only reacts to applications by giving an evaluative statement.
  - Holds a non-public meeting once a month
  - Gives a written notice to the applicant of its decision

# The Ethik-Kommission consists of:

- ▶ 9 members and some deputies
- ▶ medical doctors, paramedical staff, experts in statistics and ethics, lawyers
- ▶ all members act on a voluntary basis



# Persons of contact

- ▶ Chairman: Prof. Dr. Brockmüller
- ▶ Manager: Mrs. Wettschereck

- ▶ Contact persons

for “other” studies and studies involving medical devices

Mrs. Dr. Friedrich  
Mr. Langer

- ▶ Secretary: Mrs. Gödicke

# Studies (1)

- ▶ **AMG**–Studies (studies involving pharmaceuticals)  
Studies regulated by “Arzneimittelgesetz”
- ▶ **MPG**–Studies (studies involving medical devices)  
Studies regulated by “Medizinproduktegesetz”

# Studies (2)

## ▶ “other Studies”

- Research projects with “Beratungspflicht” by MBO (Operating researchers are obliged to consult the Ethik-Kommission’s advice)
- Possibility of accepting the vote of another Ethik-Kommission (Übernahmevotum)
- Retrospective data analysis studies: possibility of a shortened approval process

# Comprehensive consultation:

- ▶ Make an appointment 😊
- ▶ For further information, please refer to our website:

[www.ethikkommission.med.uni-goettingen.de](http://www.ethikkommission.med.uni-goettingen.de)

# **4. Datenschutzbeauftragter der UMG**

Dr. Thomas Langbein

## Research and Data Protection

**Germany's constitution (GG):**

- 1. Derived from Art 1 and 2 → Right of informational self-determination**
- 2. Freedom of Research and Teaching, Art 5(3) GG**



**Personal data are subjected to the national Laws of data protection and – since 25th of May 2018 – also European legislation**

# Research and Data Protection

## Laws:

- **German Data Protection Act (BDSG)**
- **Federal Data Protection Laws (e.g. NDSG)**
- **European General Data Protection Regulation (GDPR/ EU-DSGVO)**



**On principle: Processing of personal data is prohibited ... except it is allowed by other laws or regulations OR by permission of the person concerned. („Prohibition with Reservation of authorisation“)**

# Research and Data Protection

**But: There are special facilities for research projects!**

**DSGVO: Article 89** *Safeguards and derogations relating to processing for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes* (Link: <https://gdpr-info.eu/art-89-gdpr/>)

**Lower Saxony Law of Data Protection (NDSG): § 13**  
**Processing of personal data in research projects**

(Link: [http://www.voris.niedersachsen.de/jportal/portal/t/124p/page/bsvorisprod.psm1/action/portlets.jw.MainAction?p1=j&eventSubmit\\_doNavigate=searchInSubtreeTOC&showdoccase=1&doc.hl=0&doc.id=jlr-DSGND2018pP13&doc.part=S&toc.poskey=#focuspoint](http://www.voris.niedersachsen.de/jportal/portal/t/124p/page/bsvorisprod.psm1/action/portlets.jw.MainAction?p1=j&eventSubmit_doNavigate=searchInSubtreeTOC&showdoccase=1&doc.hl=0&doc.id=jlr-DSGND2018pP13&doc.part=S&toc.poskey=#focuspoint))

**German Law of Data Protection (BDSG neu): § 27 – Data processing for scientific or historical or statistical purposes**

(Link: <https://dejure.org/gesetze/BDSG/27.html>)



# Research and Data Protection

Declaration of confidentiality *(see page 6)*

Data access agreement *(see page 7)*

TMF-Working Groups to data  
protection in research projects

(Link: [http://www.tmf-ev.de/Arbeitsgruppen\\_Foren/AGDS.aspx](http://www.tmf-ev.de/Arbeitsgruppen_Foren/AGDS.aspx))

# Research and Data Protection

## Declaration of confidentiality

### **VERPFLICHTUNG AUF DIE VERTRAULICHKEIT**

Im Rahmen der Dokumentations- und Nachweispflichten des Art. 5 Abs. 2 DS-GVO (Accountability) ist die Verpflichtung der zur Verarbeitung befugten Personen auch weiterhin als probates Mittel anzusehen, um die Einhaltung datenschutzrechtlicher Vorschriften von vornherein zu gewährleisten. Dies zeigt sich unter anderem am Regime der Auftragsverarbeitung (AV), welches in Art. 28 Abs. 3 lit. b DS-GVO die Verpflichtung auf die Vertraulichkeit zumindest beim Dienstleister ausdrücklich als Pflichtinhalt des AV-Vertrages vorsieht.

Darüber hinaus legt Art. 32 Abs. 4 DS-GVO fest, dass sowohl Verantwortliche als auch Auftragsverarbeiter Schritte zu unternehmen haben, um sicherzustellen, dass die unterstellten Personen mit Zugang zu personenbezogenen Daten nur auf Anweisung des Verantwortlichen tätig werden. Art. 29 DS-GVO bezieht sich ebenfalls auf diese eindeutig weisungsabhängige Verarbeitung. Hierzu gehört es, unmissverständlich auf die Bedeutung und den Umfang datenschutzrechtlicher Regeln hinzuweisen und Mitarbeitern etwaige Risiken von Gesetzesverstößen vor Augen zu führen.

Der Bundesgesetzgeber hat im Rahmen der Umsetzung der Richtlinie 2016/680/EU für den Datenschutz in Polizei und Justiz an der förmlichen Verpflichtung festgehalten. § 53 BDSG n.F. verwendet insoweit sogar den hergebrachten Begriff des Datengeheimnisses. Was im öffentlichen Bereich recht ist, kann daher im nicht-öffentlichen Bereich nur billig sein.

Bei berufs- und standesrechtlicher Verschwiegenheitspflicht ist das Weglassen einer Verpflichtung für mitwirkende Personen gem. § 203 Abs. 4 Satz 2 Nr. 1 StGB ggf. sogar strafbewehrt, falls die mitwirkende Person unbefugt fremde Geheimnisse offenbart.

# Research and Data Protection

## Data access agreement

### Datenzugriffsvereinbarung/2017

Bitte ausgefüllt (Seite 1-2) an den Datenschutzbeauftragten senden. Falls keine Rückfragen sind, erhält der Antragstellende Seite 1 zurück und kann damit im Zentralarchiv die benötigten Patientenakten anfordern bzw. bei elektronischem Zugriff einen Ixserv-Account im G3-7 Informationstechnologie (Sachgebiet Klinische Systeme) beantragen.

An den  
Datenschutzbeauftragten der Universitätsmedizin Göttingen

Telelift 142

Per Fax: 39 - 12726 Als gescanntes Dokument (PDF) an: datenschutz@med.uni-goettingen.de

#### 1. Persönliche Daten des/der Antragstellenden

Name		
Privatschrift		
Telefon/E-Mail		
Abteilung/Klinik		

#### 2. Thema des Forschungsvorhabens:

3. Zweck:  Promotion  Habilitation  Sonstiges Forschungsvorhaben

4. Folgende Patientendaten werden benötigt (z.B. Patienten der Klinik...Zeitraum...Diagnose ...):

→ weiter mit Nr.5

\_\_\_\_\_  
Unterschrift des Datenschutzbeauftragten

\_\_\_\_\_  
Unterschrift der Archivleitung bzw. der Leitung der  
speichernden Stelle

# Research and Data Protection

## Keep in contact



**Dr. Thomas Langbein**

**David A. Hunt**

Tel.: 39-22762

E-Mail: [datenschutz@med.uni-goettingen.de](mailto:datenschutz@med.uni-goettingen.de)

# 5. Core facilities at UMG

Dr. Marie Hedderich

### 3. Core Facilities at the UMG



Research, Data, Management: Data management basics and services for your daily research routine at the UMG

# Central and Scientific Core Facilities

## Central Core Facilities

- ▶ **Central Animal Facility** (*Dr. Riedesel, sekretariat.zte@med.uni-goettingen.de, 39-8296*)
- ▶ **Biobank** (*PD Dr. Nußbeck, sara.nussbeck@med.uni-goettingen.de, 39-65701*)
- ▶ **Scientific Workshop** (*Mr. Lott, clott@gwdg.de, 39-4119*)

## Scientific Core Facilities

- ▶ **Transcriptome and Genome Analysis Laboratory (TAL)**  
(*Dr. Salinas, gsalina@gwdg.de, 39-22316*)
- ▶ **Proteomics** (*Dr. Lenz, proteomics.ms@med.uni-goettingen.de, 39-65192*)
- ▶ **MR-Research** (*PD Dr. Dechent, mrserviceeinheit.sekretariat@med.uni-goettingen.de, 39-13141*)
- ▶ **Medical Biometry and Statistical Bioinformatics**  
(*Dr. Leha, andreas.leha@med.uni-goettingen.de, 39-4987*)
- ▶ **Cell Sorting** (*Prof. Wulf, cellsorting@med.uni-goettingen.de, 39-12772*)

# Central and Scientific Core Facilities

## Two new Scientific Core Facilities

- ▷ **UMG Medical Data Integration Center (MeDIC) - research data**
- ▷ **Research-MR for cardiovascular imaging**

## Information event for researchers at the UMG



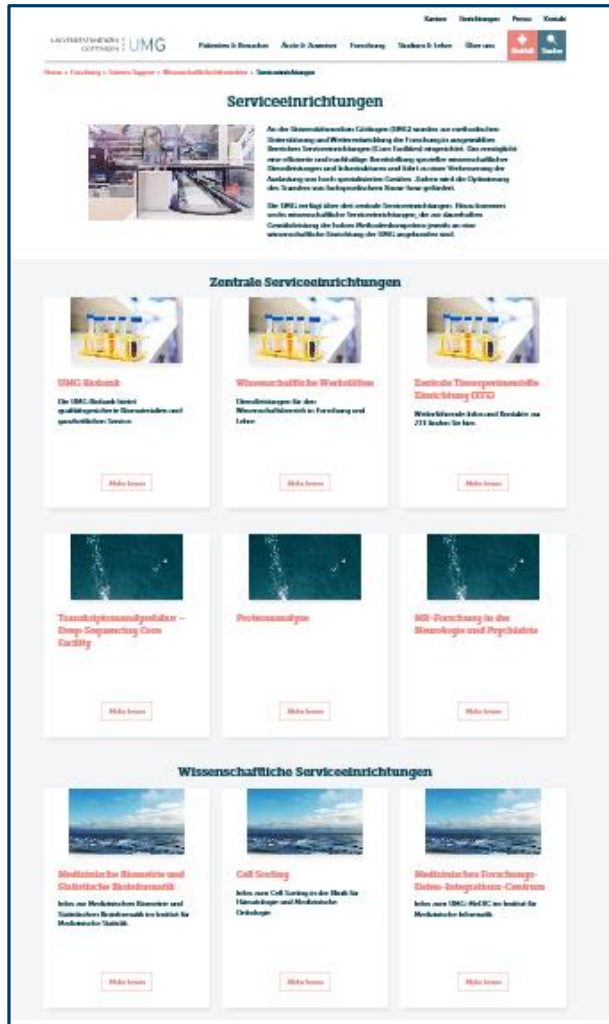
***Come and get to know the contact persons  
and services!***

Expected: *October/November 2019*



# Where to find information?

<https://www.umg.eu/forschung/science-support/wissenschaftliche-infrastruktur/serviceeinrichtungen/>



- Contact details
- User regulations
- User fees
- Catalogue of services
- Application form

***Please contact the facilities in advance to plan and calculate the costs of the experiment!***

# Application for flat-rate user fees and costs for keeping laboratory animals

DFG-Vordruck 55.03 – 03/15

Seite 1 von 1

## Hinweis

Richtwerte für die Beantragung von Tierkosten

guide values for basic animal husbandry:

- 0,70 € per mouse/week
- 1,40 € per rat/week

separate application for animal purchase

DFG-Vordruck 55.04 – 06/16

Seite 1 von 12

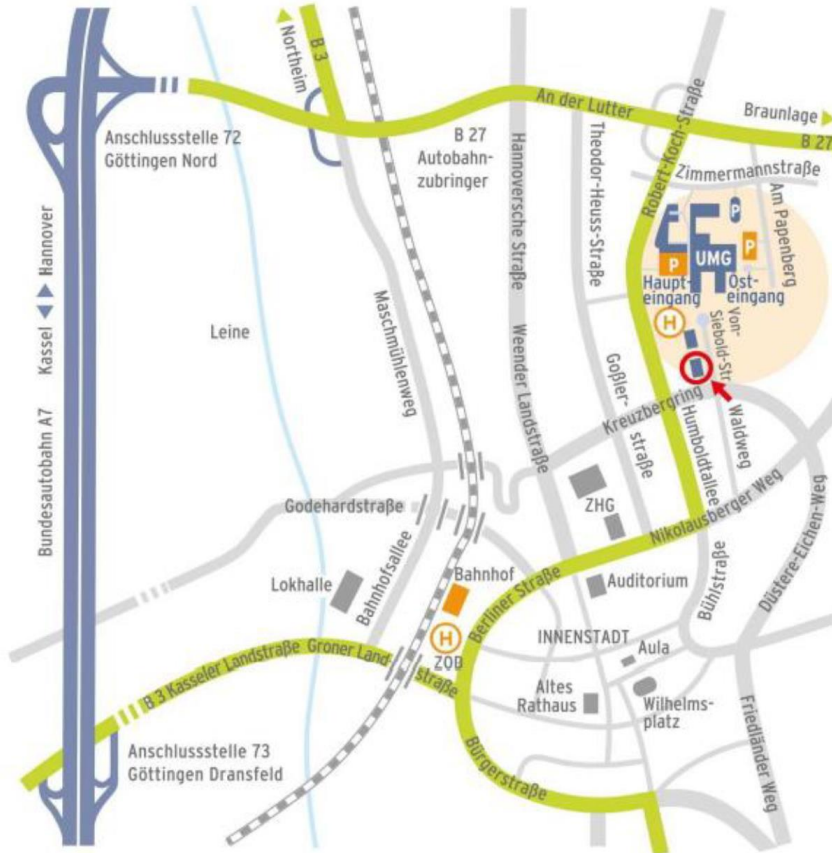
## Hinweise

zu Gerätenutzungskosten und zu Gerätezentren

- Magnetic resonance imaging
- Mass spectrometry
- Advanced light microscopy
- Electron microscopy
- NMR spectroscopy
- Flow cytometry

It can only be applied for project-specific costs!

## Contact Details – Forschung und EU-Büro



**Forschung und EU-Büro**  
 Von-Siebold-Str. 3, 37075 Göttingen  
[forschung@med.uni-goettingen.de](mailto:forschung@med.uni-goettingen.de)

# 6. Advisory services at the Department of Medical Informatics

Dr. Harald Kusch

[mi.med.uni-goettingen.de](http://mi.med.uni-goettingen.de)



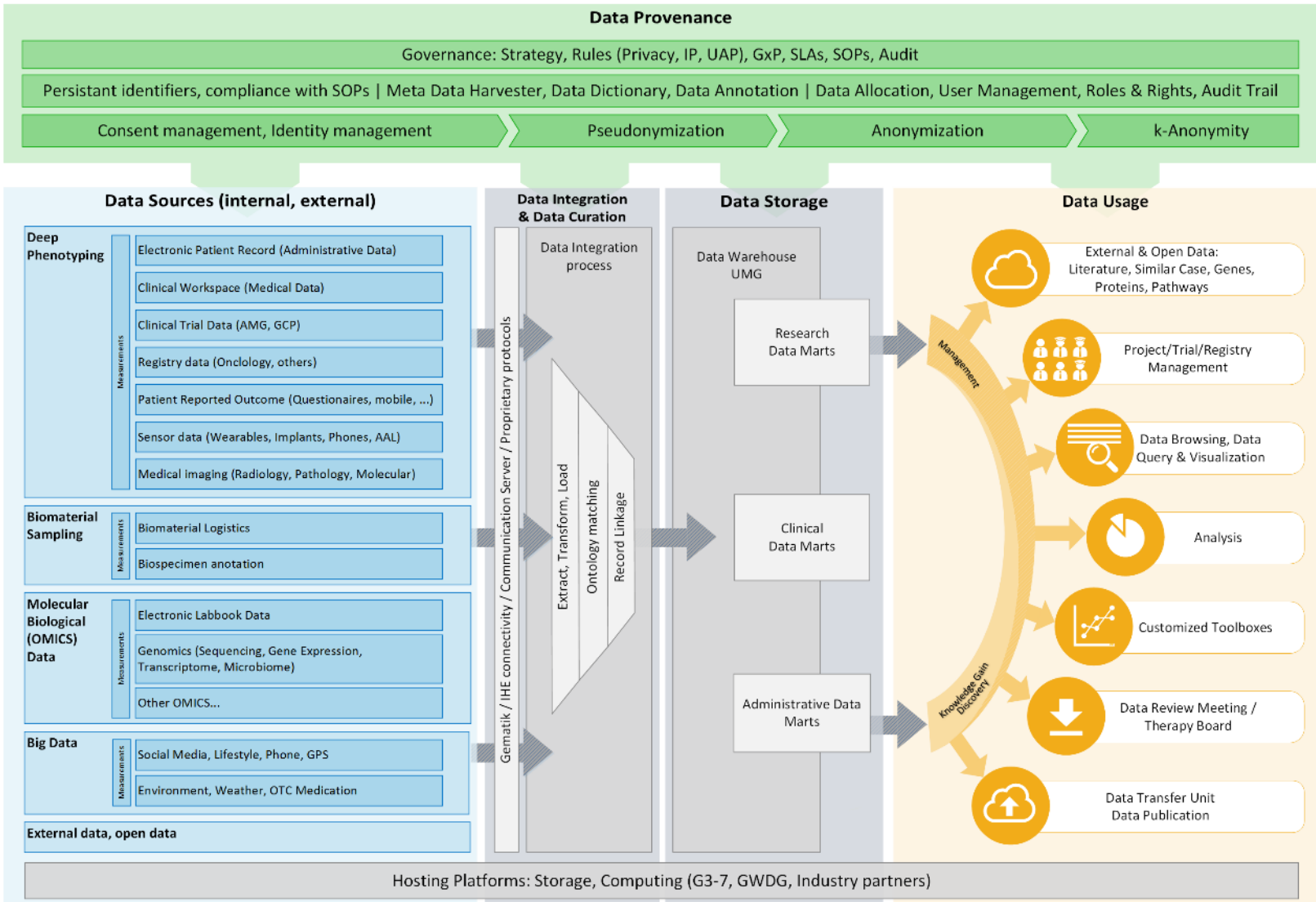
## **Advisory services at Department of Medical informatics**

- Support for design of scientific studies in coordination with Med. Statistics, KSM or other service facilities at Göttingen Campus
- Provision of information infrastructures in cooperation with computing centers, external research institutions, biobanks etc.
- Open for all institutions, working groups and PhD students
- Open also for national or international research partners or consortia

# Hard- und software infrastructure

UNIVERSITÄTSMEDIZIN GÖTTINGEN UMG

Department of Medical Informatics  
University Medical Center Göttingen



## Example services

- Clinical Case Study: Investigation of rare cases in the children's hospital
- Pseudonymization of sensitive patient data: Multiple sclerosis
- Disease registers: European multiple sclerosis register (EUReMS)
- OMICS Data management: Systems medicine-consortia sysINFLAME, Deutsches Zentrum für Herz- und Kreislaufforschung (DZHK)
- Long-term analysis of data: Nationales Demenz-Netz
- IT-infrastructures for stem cell-research: DZHK
- INF-project of a Collaborative Research Center: Cardiology CRC 1002
- National consortia: Psychiatrie Netzwerk, Deutsches Zentrum für Herz- und Kreislaufforschung

## Contact persons at Department of Medical Informatics

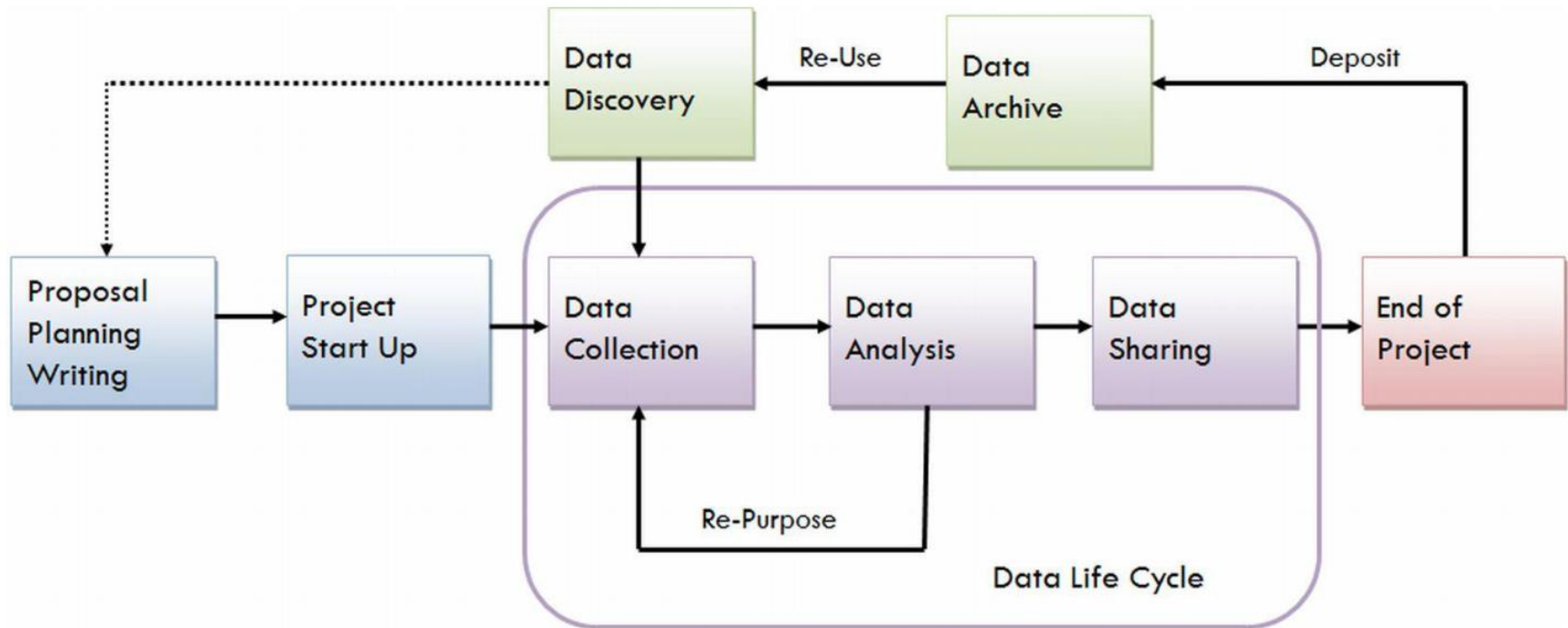
Prof. Dr. Otto Rienhoff	Head of Department
Prof. Dr. Ulrich Sax	IT-infrastructures for translational research
Sabine Rey	Medizinisches Forschungs-Daten-Integrations Centrum (UMG-MeDIC)
Kerstin Pischek-Koch	Intersectoral research
Dr. Harald Kusch	IT infrastructures in biomedical basic research Contact to Göttingen eResearch Alliance





# **7. Services at the Institute for Medical Statistics**

Dr. Andreas Leha



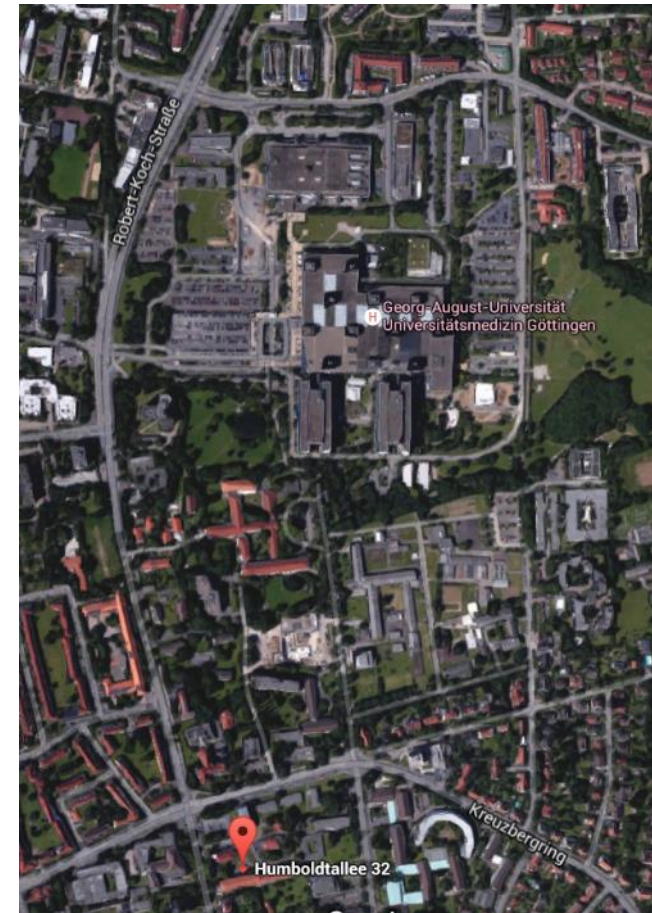
Modified from University of Virginia Library <https://data.library.virginia.edu/files/Research-Life-Cycle-LG>



## Core Facility

### *Medical Biometry and Statistical Bioinformatics*

- ▶ Infrastructure facility of the UMG
- ▶ Located at the department of medical statistics
- ▶ Offers assistance in
  - planning and
  - evaluation of scientific studies and experiments
- ▶ Open to all institutions, groups and PhD students at the UMG
- ▶ Additionally open to other institutions from the research campus



## Core Facility

### *Medical Biometry and Statistical Bioinformatics*

#### Short consulting

- ▶ Help with short questions concerning biostatistical or bioinformatical methods



- ▶ **Tuesday, 1pm – 3pm**

at the Department of Medical Statistics, Humboldtallee 32

- ▶ Can be visited without prior appointment



## Core Facility

### *Medical Biometry and Statistical Bioinformatics + TAL*

## NGS Consulting Hour

Help with the planning of NGS projects

Plan the data analysis

**Tuesday, 10am – 12am**

at the UBFT, 0.A2.006

(Bettenhaus 2, seminar room HämaOnko)



# Core Facility

## Medical Biometry and Statistical Bioinformatics

www.ams.med.uni-goettingen.de

# NGS Consulting Hour

Home German Sitemap Disclaimer (German)

UNIVERSITÄTSMEDIZIN GÖTTINGEN **UMG**

**Medical Statistics**

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- Structure of Department
- Travel Directions
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- Jobs
- External links

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M. Sc. Studiengang "Applied Statistics"

- deutsch
- englisch

**About us**

**Research**

**Teaching**

**Staff**

**Services**

**Welcome to the Department of Medical Statistics**

Dear guests and colleagues!

The activities of the Department of Medical Statistics include clinical cooperations that we see through from grant applications to publications, a biostatistical advisory service for doctoral students and early career scientists, research in statistical methodology and teaching. More detailed information on these topics can be found on this homepage under the corresponding headers.

The current organisational structure of the Department includes two working groups. These are "Statistical Bioinformatics" led by Prof. Tim Beißbarth and "Clinical Trials" led by Prof. Reinhard Hilgers and myself. Furthermore, the **Core Facility Medical Biometry and statistical Bioinformatics** is based at the Department.

Different main research areas with special expertise and experience have been established within the last years - as **Nonparametric Statistics**, **Systematic Reviews and Meta-Analyses** and **Statistical Methods for Infectious Diseases** .

Further details on the structure of the Department are given in [the organisational chart](#).

If you have any questions or comments, please do not hesitate to contact us.

With best regards

**Tim Friede**  
Professor of Biostatistics  
Chair, Department of Medical Statistics

**Contact**

Department of Medical Statistics  
Humboldtallee 32  
D-37073 Goettingen

**Head of Department**  
Prof. Tim Friede  
Office:  
Dorit Meyer  
TEL: 0551-39-4990  
FAX: 0551-39-4995  
E-Mail:  
[Sekretariat.AMS@med.uni-goettingen.de](mailto:Sekretariat.AMS@med.uni-goettingen.de)

**News**

**Calendar NGS Consulting**

06 - 07. Dez. 2018 - Workshop "Bayesian methods ..."

# Core Facility

## Medical Biometry and Statistical Bioinformatics

### NGS Consulting Hour

#### Current Plan

**Bioinformatics Consultation Hour**

Heute ◀ ▶ Juni 2018 ▼ Drucken Woche Monat Terminübersicht ▼

Mo	Di	Mi	Do	Fr	Sa	So
28	29 10:00 Bioinforma	30	31	1. Juni	2	3
				8	9	10
11	12 10:00 Bioinforma	13	14	15	16	17
18	19	20	21	22	23	24

**Bioinformatics Consultation Hour**

**Wann** Di, 29. Mai, 10:00 – 12:00

**Wo** UBFT, Seminarraum der Hämatologie und Onkologie, Bettenhaus 2, (0.A2.006) ([Karte](#))

---

[Mehr Details»](#) [In meinen Kalender kopieren»](#)

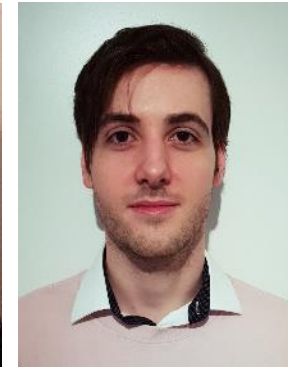


## Core Facility

### *Medical Biometry and Statistical Bioinformatics*

#### Coached working

- ▶ Assistance with statistics- and bioinformatics-software
- ▶ Location:
  - ▶ CIP-pool of the Department of Medical Statistics
  - ▶ Learning Ressource Center (Medical Library)
- ▶ No prior appointment necessary
- ▶ Time schedule available at the departments website



# Core Facility

## Medical Biometry and Statistical Bioinformatics

www.ams.med.uni-goettingen.de

### ► Coached working

Home German Sitemap Disclaimer (German)

UNIVERSITÄTSMEDIZIN GÖTTINGEN **UMG**

Aa+ Aa Aa-

**ams**

**Contact**

Department of Medical Statistics  
Humboldtallee 32  
D-37073 Goettingen

**Head of Department**  
Prof. Tim Friede  
Office:  
Dorit Meyer  
TEL: 0551-39-4990  
FAX: 0551-39-4995  
E-Mail:  
[Sekretariat.AMS@med.uni-goettingen.de](mailto:Sekretariat.AMS@med.uni-goettingen.de)

**news**

**Calendar Coached Working**

06 - 07. Dez. 2018 - Workshop  
"Bayesian methods ..."

**About us**

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# Core Facility

## Medical Biometry and Statistical Bioinformatics

### ► Coached working

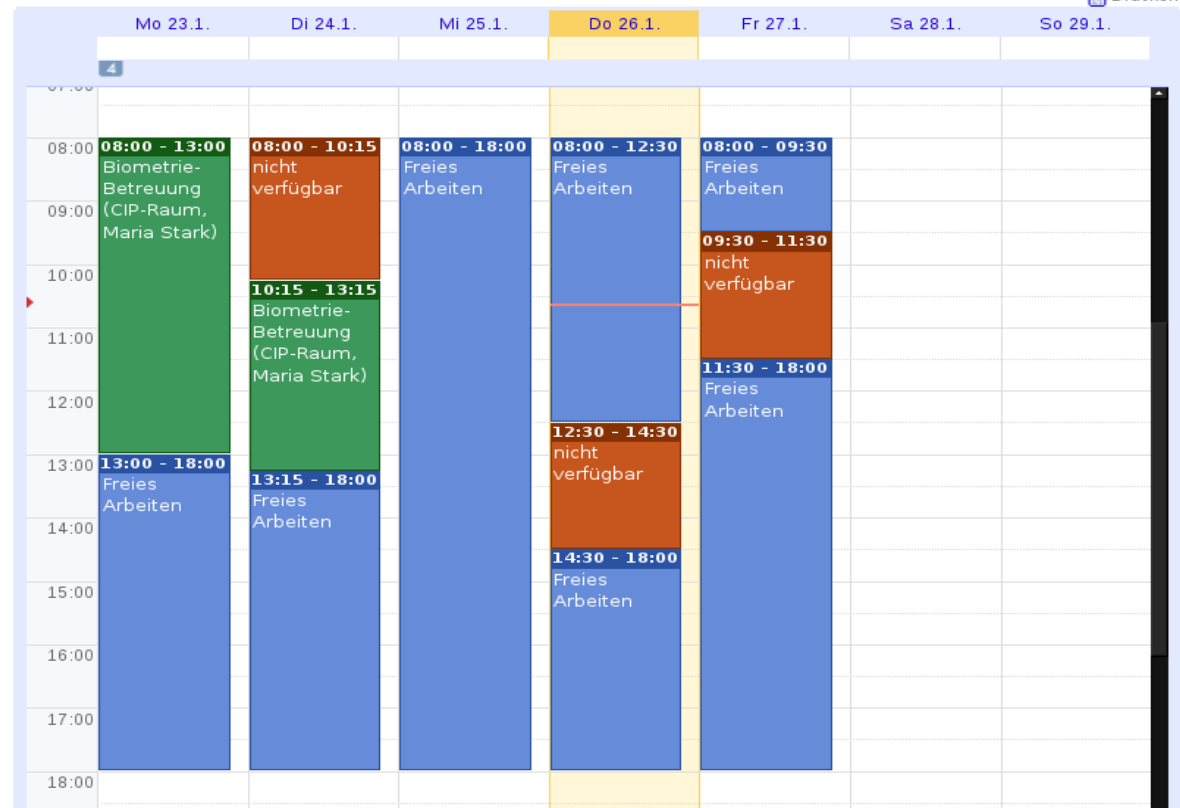
Unser Service „Betreutes Arbeiten“ dient der direkten Unterstützung am Computer bei der Auswertung Ihrer medizinischen und experimentellen Daten. Das „Betreute Arbeiten“ findet entweder im CIP-Raum des Instituts für Medizinische Statistik oder im LRC in der Bereichsbibliothek Medizin statt (siehe aktueller Plan).

[Bearbeiten](#)

### Aktueller Belegungsplan

#### Belegungsplan CIP-Raum folgende Woche & LRC

[Drucken](#)



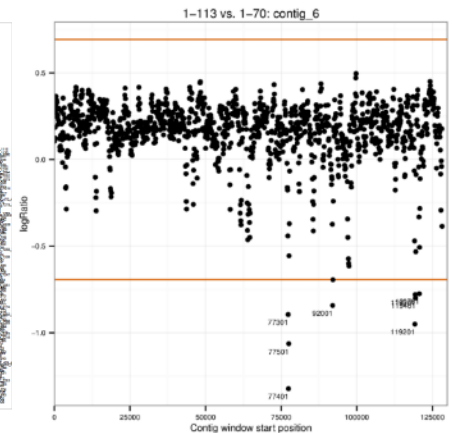
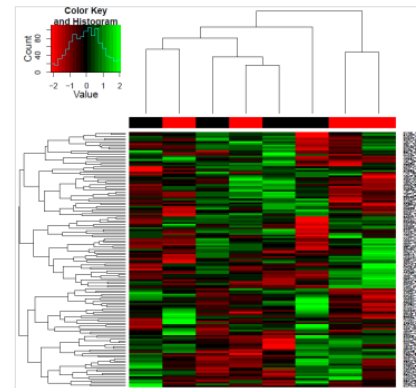
# Core Facility

## *Medical Biometry and Statistical Bioinformatics*

### Project-related support

- ▶ We can carry out the biometrical and bioinformatical **planning** and **analysis** of your scientific experiments and studies:

- ▶ Design of experiments, sample size planning
- ▶ Statistical analysis
- ▶ Bioinformatics analysis (e.g. array-, proteomics- and NGS-data)
- ▶ Reporting of results

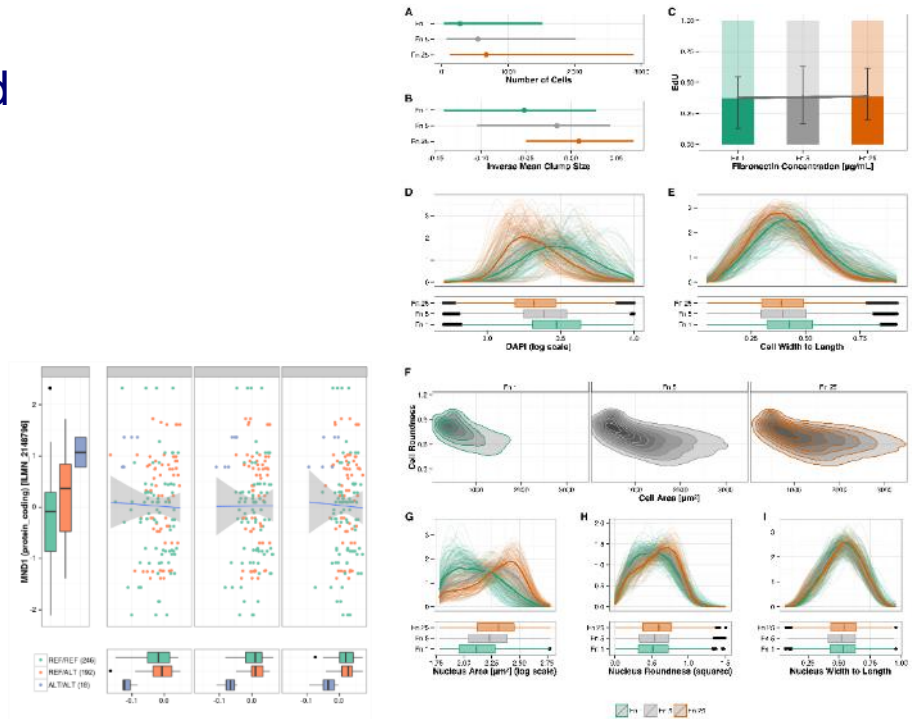


# Core Facility

## Medical Biometry and Statistical Bioinformatics

### Project-related support

- ▶ We recommend early involvement (i.e. already in the planning phase)
- ▶ Appointment via our web form preferred (department homepage)
- ▶ There will be an invoice
  1. Discussion of project
  2. Cost estimate based on time effort
  3. Service request



## Core Facility

### *Medical Biometry and Statistical Bioinformatics*

#### Methods and software courses

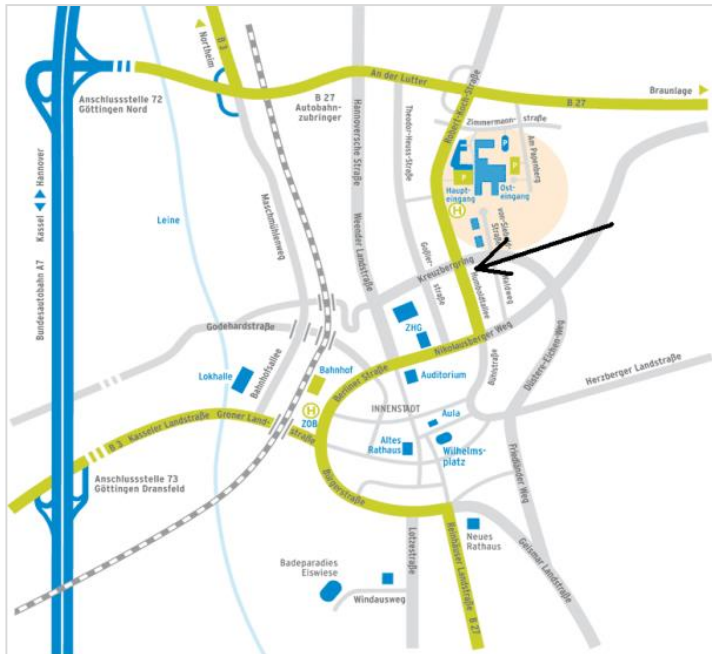
- ▶ Special courses in biometry or bioinformatics methods and software
  - Introduction to Biometry
  - Sample Size Planning
  - Statistical tests and correction for multiplicity
  - Analysis of RNAseq Data + *TAL*
  - Graphical Data Representation
  
- ▶ Courses will be announced on the department website



# Core Facility

## *Medical Biometry and Statistical Bioinformatics*

### Contact



University Medical Center Göttingen  
Department of Medical Statistics

37099 Göttingen **Mailing Address**  
Humboldtallee 32, 37073 Göttingen **Address**  
0551 / 39-4987 **Phone**  
0551 / 39-4995 **Fax**

service.biometry.bioinformatics@med.uni-goettingen.de **E-Mail**  
www.ams.med.uni-goettingen.de/service-en.shtml **Website**

# **8. Services of the central UMG Biobank**

PD Dr. Sara Nußbeck



BIOBANK

## 7. Services of the Central Core Facility UMG Biobank



PD Dr. Sara Nußbeck, Head of UMG Biobank

## BIOBANK

# WHAT IS A BIOBANK?

- Centralized core facility at the UMG
- Logistics Core Facility for standardised storage of biomaterials and accompanying data



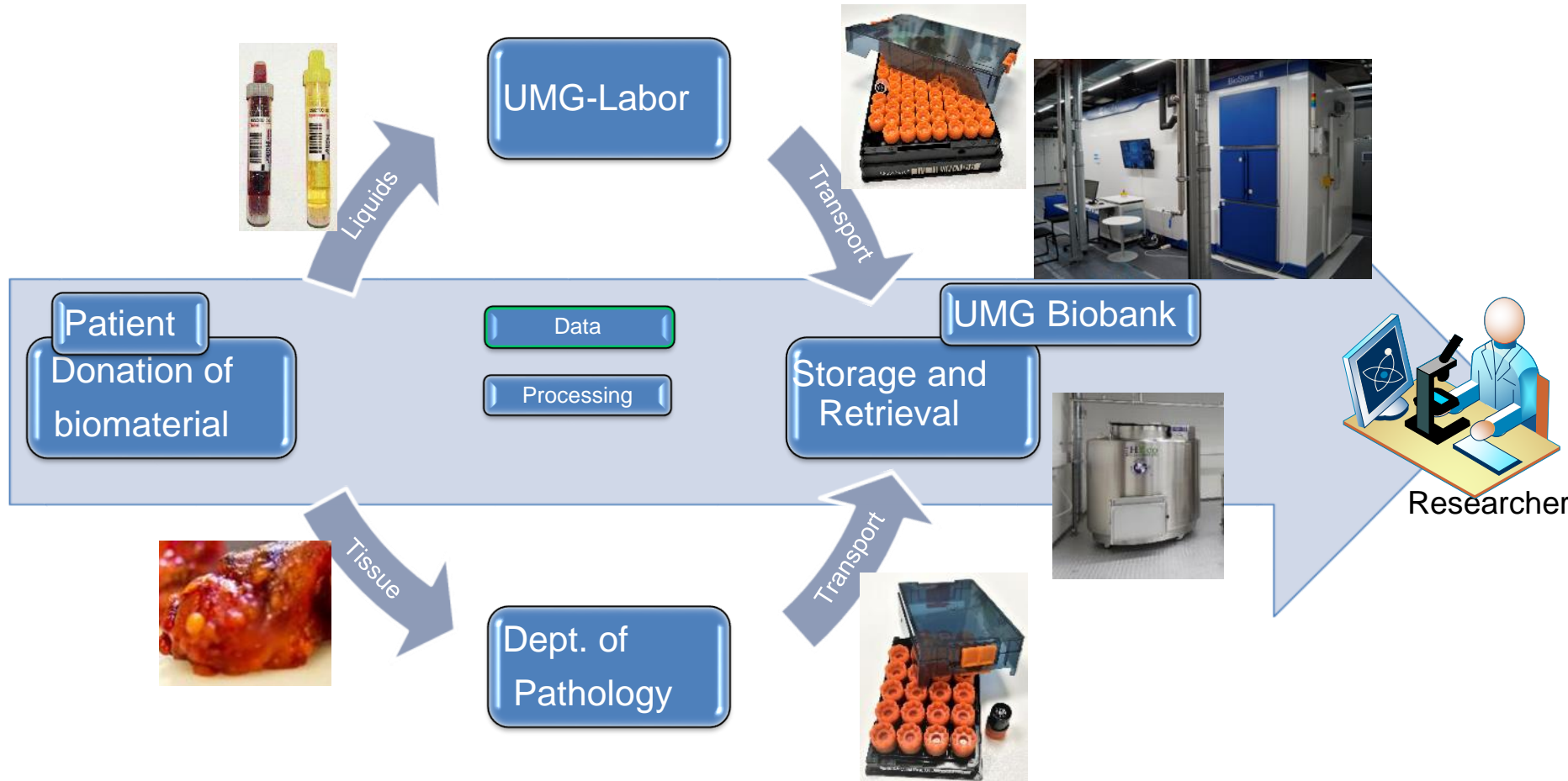
Automated storage at  $-80^{\circ}\text{C}$



Manual storage in vapor phase of  $\text{LN}_2$

# BIOBANK

## WORKFLOWS OF A BIOBANK



## AIM

The aim of the UMG Biobank is to support biomedical research by providing high quality data and samples.

Two ways of interacting with the UMG Biobank:

1. Project for which UMG Biobank serves as storage facility
2. UMG Collection strategy: UMG Biobank provides samples and data for research questions

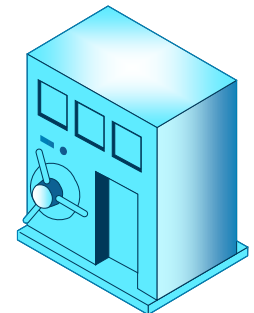
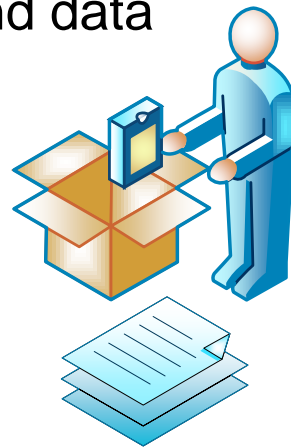
\* <http://www.biobank.med.uni-goettingen.de/de/content/forscher/226.html>

## BIOBANK

# SERVICES



- Advise on sample quality and handling
- Advise on data management
- Sample processing, storage and management
- Provision of samples and data
- ....



# IMPRESSIONS



ethics

IT systems and interfaces

automation

standardised workflows

frame work documents

backup strategies

## BIOBANK

# CONTACT DETAILS AND MORE INFORMATION



[biobank@med.uni-goettingen.de](mailto:biobank@med.uni-goettingen.de)  
[www.biobank.med.uni-goettingen.de](http://www.biobank.med.uni-goettingen.de)

**Consultation hours:** every 1st Thursday of the month (12-2 pm)

**Thanks for your attention!**  
**Are there further questions?**

<http://ereseach.uni-goettingen.de>

[info@ereseach.uni-goettingen.de](mailto:info@ereseach.uni-goettingen.de)