

Research Data Management and Central Service Facilities: eResearch Services for PhD students at UMG

Jens Dierkes

Göttingen eResearch Alliance

Dagmar Härtter

Bereichsbibliothek Medizin, SUB

Marie Hedderich

Referat Forschung, UMG

Harald Kusch

Medizinische Informatik, UMG

Xenia Schulz

Med. Biometrie und Statistische Bioinformatik, UMG

Sandra Seelke

Biobank, UMG

Doris Wettschereck

Ethikkommission, UMG

Steffen Klemer

eScience Gruppe, 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. Advisory services at the Department of Medical Informatics
6. Service at the Institute for Medical Statistics
7. Services of the central UMG Biobank



Example: CRC 1002

Electronic laboratory notekeeping

Paper lab notebook

OCTOBER 15 1998

DIGEST:

2 μ l pG16 MET25 2.5 μ l 6EM16.2MA Eno21/AA
 4.5 μ l UNIVERSAL B 4.5 μ l UNIVERSAL B
 22.5 μ l H₂O 22 μ l H₂O
 0.5 μ l BamHI 0.5 μ l BamHI
 0.5 μ l EcoRI 0.5 μ l EcoRI
 → CIP



LIGS: 6 μ l pG16 MET25
 2 μ l Eno24/AA / H₂O
 19 μ l H₂O
 3 μ l T4-LIGG
 0.5 μ l T4-LIGASE

→ 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

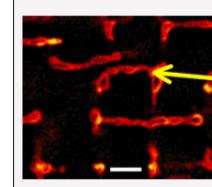
Name: Experiment 1 based on Template AG Lehnart STED Tags: di-8-ANEPPS, STED, Microscopy, Fluorescence SD381

Microscopy Image Acquisition

Publication Tag Search... AND OR Add Go

Wagner et al. 2012

<field id="229625">
 <fieldName>Primary antibody</fieldName>
 <fieldType>STRING</fieldType>
 <lastModifiedDate>2015-08-26</lastModifiedDate>
 <fieldData><https://hdl.handle.net/11022/umg-sfb1002-antibody-primary-119></fieldData>

 Signal

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

You found 462 hits.

Time	User	Action	Type	Resource	Name
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
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
2016-04-21 11:42:08	Dr. Harald Kusch	READ	RECORD	SD353	Template - AG Lehnart - Western Blot - Immuno detection for Western Blotting

Dye di-8-ANEPPS

Excitation in nm 490

laser pulsed diode laser (Pico TA 490, Toptica, Munich, Germany)

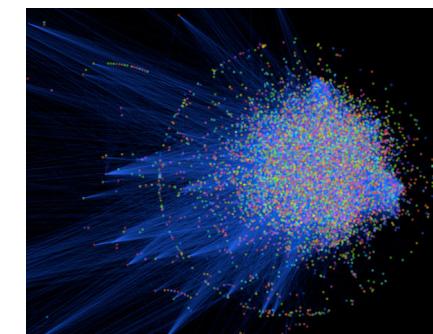
1. Management of Research Data

Dr. Jens Dierkes
09. Dezember 2016

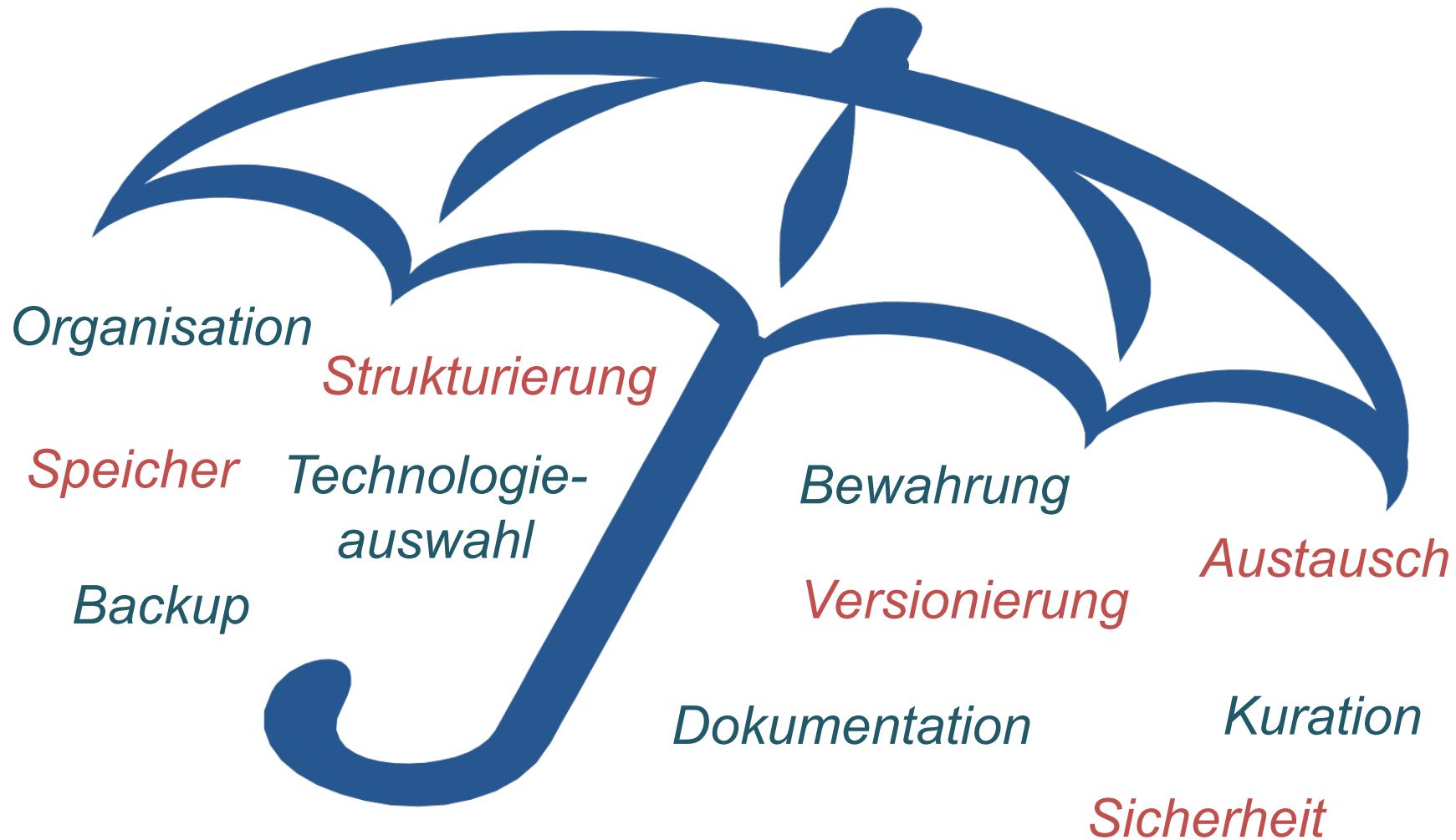


Data are **representations** of observations, objects, or other entities used as **evidence** of phenomena for the purposes of research or scholarship.

(Christine Borgmann 2014)



Was ist Forschungsdatenmanagement?



Grundlegende Fragen

Organisation und Speicherung

- Können Sie finden, was Sie brauchen und wenn Sie es brauchen?
- Sind Ihre Daten sicher gespeichert? Haben Sie einen Backup-Plan implementiert?



Grundlegende Fragen

Organisation und Speicherung

- Können Sie finden, was Sie brauchen und wenn Sie es brauchen?
- Sind Ihre Daten sicher gespeichert? Haben Sie einen Backup-Plan implementiert?

Dokumentation

- Ist die Bedeutung aller Daten und der Verarbeitungsschritte bekannt, klar?
- Bleibt die Information verständlich, wenn Sie sie später wieder aufsuchen?



Weitergedacht...

Kuration und Austausch

- Wie sieht der langfristige Plan für die Daten aus?
- Können Sie sie anderen Forschenden zur Verfügung stellen?
 - Viele Förderer verlangen dies
- Gibt es ein Repository oder Archiv, in dem Sie Ihre Daten ablegen können?
- Was benötigen Sie heute, um all dies zu unterstützen, einfacher zu gestalten?



eResearch = *enhanced*Research

2. Göttingen eResearch Alliance

Dr. Jens Dierkes
09. Dezember 2016

Göttingen University meets the challenges



Göttingen eResearch Alliance

Focus areas

Current page: ▶ Homepage ▶ 28. August 2014: Res...

Aa+ Aa- Ⓞ

Search | Deutsch

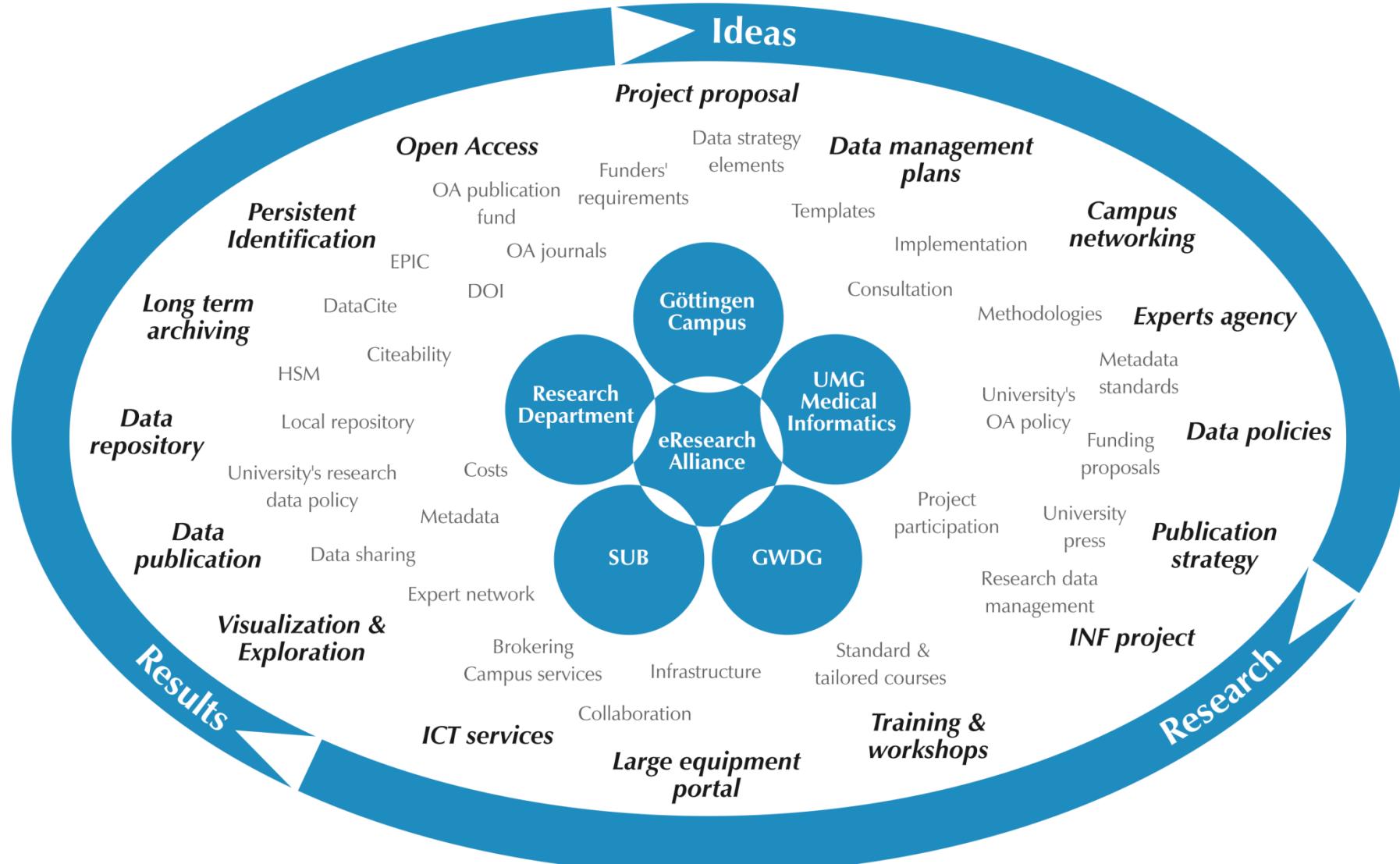
28. August 2014: Research data policy of the Georg-August University Goettingen (incl. UMG)

Preamble:

The Georg-August-University Goettingen is committed to diligently preserve results of scholarship, to produce novel results through research, and to make results accessible and reusable for academia and the wider society, now and for future generations. The management, protection, preservation and sustainable provision of research data must therefore be carried out in accordance with recognized standards, meet high expectations and fulfil legal and ethical obligations. The University acknowledges that the implementation of this guideline will depend on the settings and requirements of each subject area.

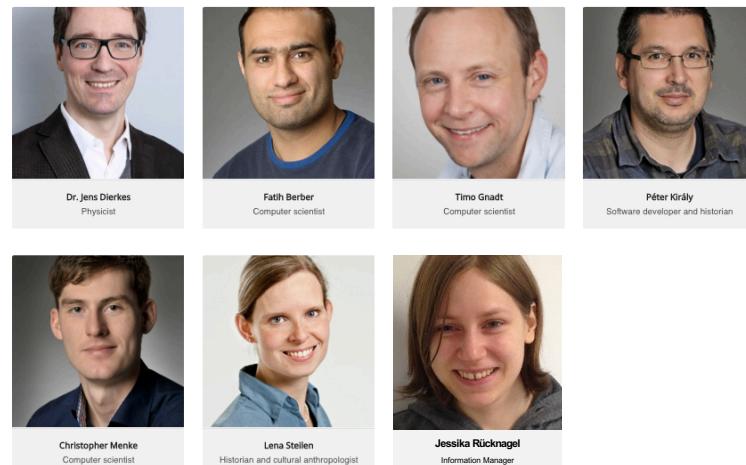
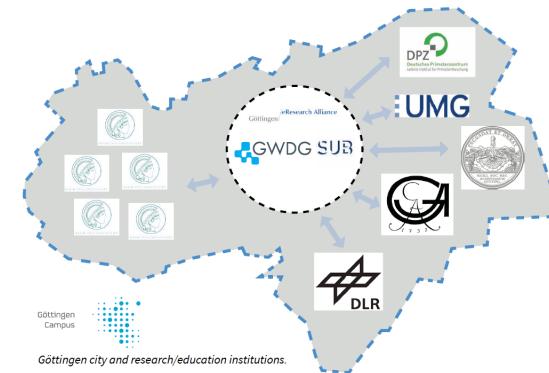
1. The University promotes and supports open access to research data.
2. Research data are those data collected, observed, simulated, derived, or generated during the course of research.
3. Management of research data includes their planning, collection, processing, and preservation. It ensures the access to, and the reuse, reproducibility, and quality assurance of all research data underpinning research results.
4. Research data management is generally the responsibility of the person leading a project and the researcher who is acting in an individual capacity. A particular responsibility is the adherence to good practices of research as well as standards in their subject area.
5. Research projects with research data require a data management plan that includes but is not restricted to the topics of access rights to research data and necessary precautions for handling them.
6. The University provides support and advice for research data management in the preparatory stages of research projects, during their conduct and after their completion, and provides appropriate training.
7. The University implements and maintains essential services for research data infrastructure that ensures adequate storage and technical availability of digital research data. Specific requirements have to be aligned among all stakeholders and may involve additional funding.
8. Storage and archiving of digital research data is carried out within the technological and informational infrastructure of the University or in acknowledged external or internal subject repositories.
9. The University and its researchers adhere in their research data management to given conditions of ethics, data protection, intellectual property, privacy and disclosure. This leaves regulations untouched that relate to an assessment of research data according to the German employee invention act and specific contractual agreements.
10. If exploitation or publication rights of data were transferred to third parties, it should be a precondition that research data remain openly and freely available for research purposes.

Forschungs-Lebenzyklus



eResearch Alliance

- All services for eResearch from **one** hand
- Co-chaired by Library and IT
 - GWDG: ~120 people, 30 in eResearch
 - SUB: ~450 people, 40 in eResearch
- **Brokering-Office** with c. 7 people (since 10/2014)
 - Team from different disciplines w/ eResearch expertise
 - Actual services and projects in individual organisations
 - **Translate discipline-specific into information-infrastructure requirements**
- **Participatory Design**
 - Research Office and University Medical Center in Steering Committee
 - eResearch Council with official Campus delegates



eRA Services

- Requirements analysis
- Text blocks for proposals
- Data integration
- Data management
- Data policies
- Legal aspects

Consulting

Online-
Services/
Technology

- Data management
- eResearch topics
- eLearning
- Digital literacy
- Master program on Data Science

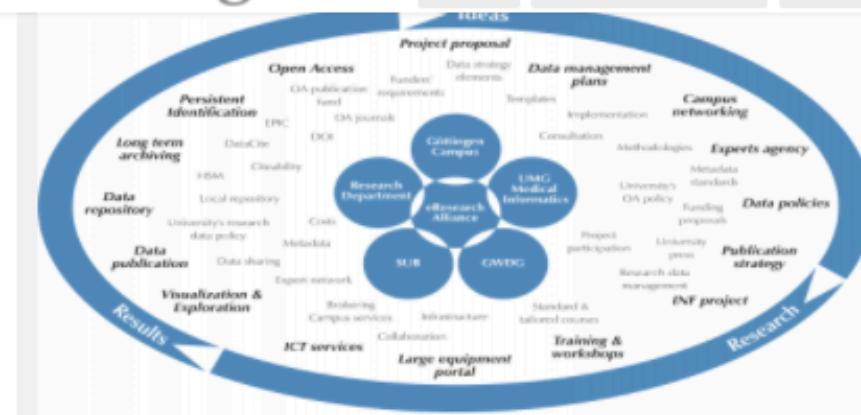
Training

Networking

- Storage solutions
- Compute
- Communication
- Cooperation
- Information provision
- Project participation

- Expert network, eResearch Council
- Service units
- Organizing workshops

Göttingen / eResearch Alliance

[About](#)[Data Management](#)[Tools & Services](#)[eResearch](#)[FAQ](#)[News](#)[Contact](#)

Research Life Cycle

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

[More](#)

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**. As a single point of contact for scientists and scholars on the Göttingen Campus, we offer information, personal advice and support for key issues related to digital research through all phases of the research life cycle: Ideas, Research, Results!



Ideas

- Project proposal support
- Data management planning
- Expert network



Research

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



Results

- Persistent Identification
- Data publication
- Long term archiving

[more](#)
[more](#)
[more](#)

Guidelines

- Research data policy of the Georg-August-University Göttingen (incl. UMG)
- Open Access Politik der Universität Göttingen (only German)

News

- 09.12.2016: Next info event on research data management at UMG
- 06.12.2016: 1st Open Science Göttingen Meet-up
- 01.12.2016: Info-Event - Digitale Unterstützung in den Geistes- und Gesellschaftswissenschaften
- 19.10.2016: RDM-Worshop within the scope of "Recherchieren und Publizieren in der Chemie"

Your service provider and information agency

2.1 Division Library Medicine

Dagmar Härter

09. Dezember 2016

Your service and information provider

Contact us if you

- Need support for publication processes
- Are getting lost in the shuffle of research processes, data management and offerings
- Want to know where to find experts for these topics



We will guide you!

2.2. Gesellschaft für wissenschaftliche Datenverarbeitung mbH Göttingen

Steffen Klemer
09. Dezember 2016



NEUIGKEITEN

DIENSTE ▾

FORSCHUNG & LEHRE

ÜBER UNS

SUPPORT

ANMELDEN

EN DE



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

GWDG CLOUD SERVER

Steffen Klemer
Göttingen, 09.12.2016

Gesellschaft für wissenschaftliche Datenverarbeitung mbH

- **Gründung 1970 – Träger: Universität Göttingen & Max Planck Gesellschaft**
- **Betrieb von Rechenzentren, Parallelrechnern, Netzwerken, Campus-WLAN**
- **125 Mitarbeiter, > 20.000 WLAN-Geräte/Tag online, Zertifiziert nach ISO 9001**
- **IT-Forschungseinrichtung**
 - Leitung- und Mitarbeit in nationalen und internationalen Forschungsprojekten
 - Forschungsschwerpunkte
 - Datenmanagement & elektronische Forschungsinfrastruktur
 - Virtuelle Forschungsumgebung & Innovative Digitalwerkzeuge
 - Datenanalyse, Visualisierung und Big Data Technologien
 - Cloud Computing
 - Next-Generation Networking

Portfolio

Dienste für die Wissenschaft

[NEUIGKEITEN](#)[DIENSTE](#) [FORSCHUNG & LEHRE](#)[ÜBER UNS](#)[SUPPORT](#) [ANMELDEN](#)[EN](#) [DE](#)

Speicherdienste

- Fileservice
- Archivierung
- Backup
- GWDG Cloud Share
- Cryptshare
- GWDG ownCloud
- GWDG Crash Plan PROe

E-Mail & Kollaboration

- E-Mail-Service (MS Exchange 2010)
- Spam- und Virenfilterung
- Mailinglisten
- MS SharePoint
- Managed Services
- Projektmanagement-Service
- Etherpad

Anwendungsdienste

- Persistent Identifier (PID)
- High Performance Computing
- Bibliotheksdienst Aleph
- Datenbankdienst Oracle
- Bewerbungs-/Registrierungssyste...
- Bioinformatik-Programme
- Statistik-Programme
- Onlineumfragen
- Plagiatserkennung
- Datenbankdienst MySQL

Server-Dienste

- Virtuelle Server
- Hosting/Housing von Servern
- Webhosting
- GWDG Cloud Server
- FTP Server

Netzwerkdienste

- Systemüberwachung
- IP-Adress-Management-System
- Kabel- und Trassenmanagement-...
- Einrichtung von eduroam
- Anschluss an das Active Directory
- Benutzerverwaltung mit OpenLDAP
- Client-Management

IT Sicherheit

- Sicherheitstests eines Netzwerkes...
- Public-Key-Infrastruktur (PKI)
- Authentifizierungs/Autorisierungs-I...
- Virenschutz (Sophos-Update-Serv...

Allgemeine Dienste

- Software und Lizenzverwaltung
- Kurse
- Videoconferencing
- Leihrechnerpool
- Identity Management
- Druck- & Scandienste

IT-Beratung

- Aufbau von Verzeichnisdiensten (...)
- IT-Sicherheit
- Planung von Datenübertragungsn...
- Apple-Beratungszentrum
- Forschungsdaten-Management
- Hardwarekauf

DIENSTE

Beispiel Infrastruktur GWDG Cloud Server



„Virtuelle“ Rechner für Forschende, Arbeitsgruppen und Projekte

- **Rechner per Selbstbedienung**
- **Für beliebige Anwendungen geeignet**
- **Unterschiedliche Größen bestellbar**
- **Vollständige Kontrolle über den virtuellen Rechner**
- **Eigene IP Adresse**
- **Betrieben 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

c1.small	c1.medium	c1.large	c1.xlarge	c1.xxlarge
 2 Cores 2 GB RAM 20 GB Disk	 4 Cores 4 GB RAM 40 GB Disk	 8 Cores 8 GB RAM 80 GB Disk	 16 Cores 16 GB RAM 160 GB Disk	 16 Cores 16 GB RAM 160 GB Disk

Images

CentOS 6.5 Server x86_64	CentOS 7.1 Server x86_64	Debian 7.8 Server x86_64
Fedora 20 Desktop Gnome x86_64	Fedora 20 Desktop KDE x86_64	Fedora 20 Server x86_64
openSUSE 13.1 Desktop Gnome x86_64	openSUSE 13.1 Desktop KDE x86_64	openSUSE 13.1 Server x86_64
Scientific Linux 6.6 Server x86_64	Scientific Linux 7.1 Server x86_64	Ubuntu 12.04.5 LTS Server x86_64

Beispiel kollaboratives Arbeiten

Eine Auswahl



Kollaboration

- Gehostetes, privates Wiki (*E-Mail an support@gwdg.de*)
- Eigene Mailinglisten: www.gwdg.de
- Texte gemeinsam bearbeiten: etherpad.gwdg.de
- Dokumente Teilen: owncloud.gwdg.de / cryptshare
- Office-Dokumente online bearbeiten: powerfolder.gwdg.de
- LaTeX-Dokumente live gemeinsam bearbeiten: sharelatex.gwdg.de
- Internetchats (wie ICQ): jabber.gwdg.de
- Web- / Team-Chats (wie Slack): mattermost.gwdg.de (*auf Anfrage*)
- Softwareentwicklung / Projektmanagement: gitlab.gwdg.de

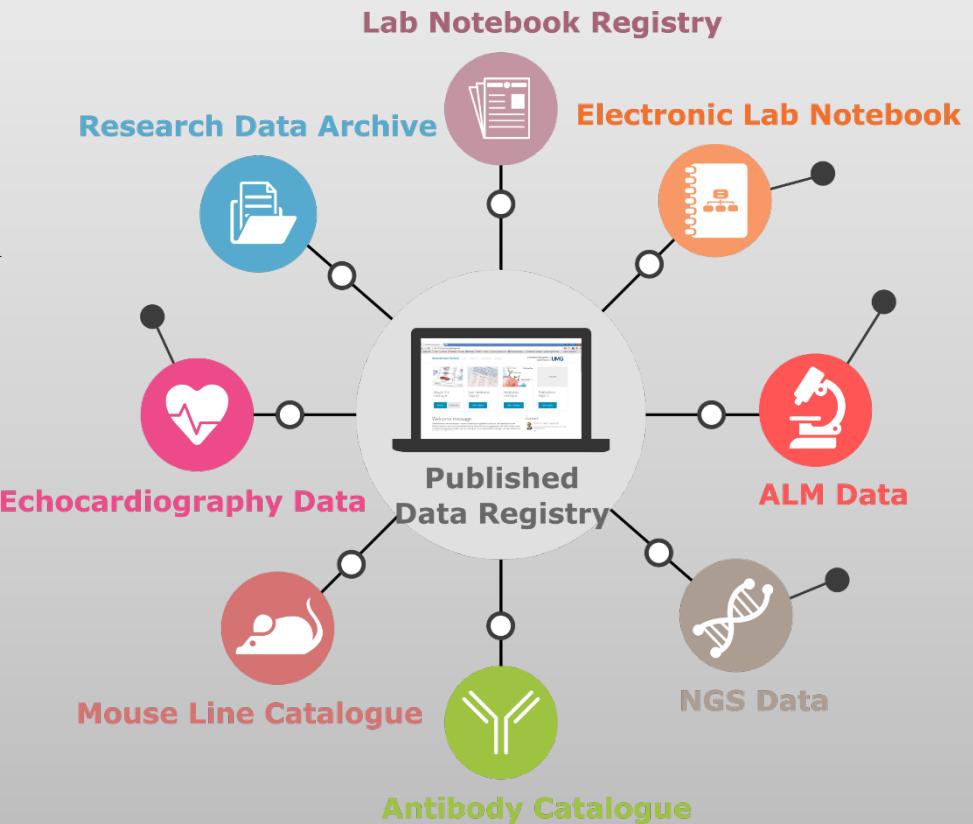
Verwalten von Projekten und Softwareentwicklung

- Webbasiertes Projektmanagement mit einer großen Auswahl an Funktionen die Unterstützung des Projektlebenszyklus
- Features
 - Wiki
 - Verwaltung von Aufgaben
 - Zeitplanung
 - Dokumenten-Repository
 - Nutzermanagement
- Integriertes Git- und SVN-Repository für Softwareentwicklung
- Integration in die eigene Entwicklungsumgebung möglich
- Projektbereiche, in denen Sie eigenständig Projekte erstellen oder verwalten können
- projects.gwdg.de

Projektspezifisches Beispiel DFG Sonderforschungsbereich 1002

Unterstützung von Forschenden aus verschiedenen Fachdisziplinen

- **Ziele**
 - Nachvollziehbarkeit
 - Übermittlung von Daten an Community-Repositorien
- **Sammlung & Dokumentation von**
 - Publikationen
 - ALM-Daten
 - NGS-Daten
 - Ultraschall-Daten
- **Verknüpfung von**
 - Publikationen
 - Antikörper
 - Laborbüchern
 - Maus-Genom-Linien



Ihr persönlicher Kontakt zu uns



[+49 551 201-1523](tel:+495512011523)

Wenden Sie sich an unsere Hotline



support@gwdg.de

Schreiben Sie uns eine E-Mail und wir nehmen mit Ihnen Kontakt auf



support.gwdg.de

Ein Ticket mit Fragestellung oder Problembeschreibung erstellen
(Konto erforderlich)



www.gwdg.de/docs

www.gwdg.de/faq

Anleitungen & FAQ



[Neu hier?](#)

Eine Kurzübersicht häufiger Fragen

[Konto beantragen](#)

[Passwort ändern](#)

[E-Mails abrufen](#)

[WLAN \(eduroam\) nutzen](#)

[Virenschutz downloaden](#)

[Drucken](#)

[Software kaufen](#)

[Kursteilnahme](#)

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 (*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 (*Dr. Dechent*, mrforschung.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)

Where to find further information?



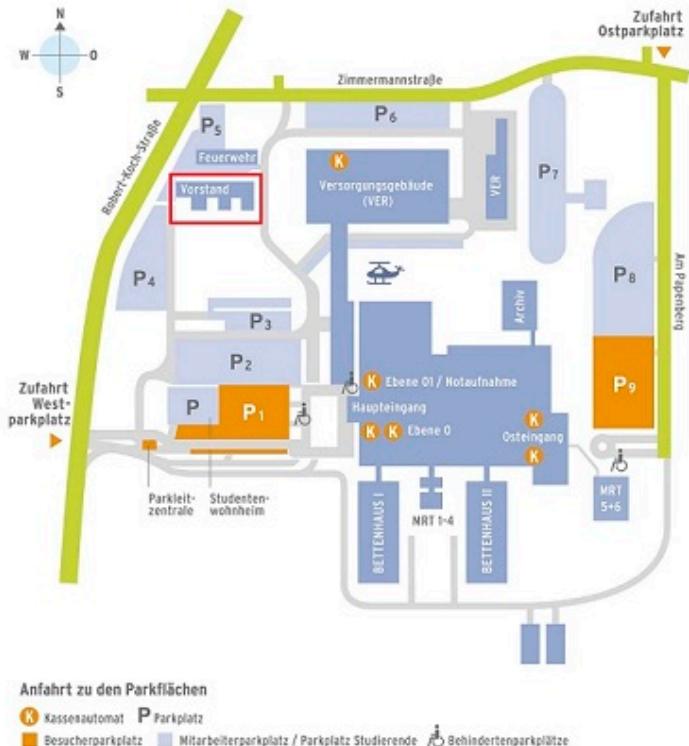
The screenshot shows a navigation bar with links to Medizinische Versorgung, Forschung, Studium, Internationales, Über uns, and Service. Below the navigation is a search bar and a breadcrumb trail: Zurück | Home > Forschung > Einrichtungen > Serviceeinrichtungen und Technologieplattformen. The main content area is titled 'Serviceeinrichtungen und Technologieplattformen'. It discusses the establishment of service facilities for research support and outlines the benefits of specialized services and infrastructure. It also mentions the availability of three central and five scientific service facilities. A sidebar on the left lists various service and technology platforms, including ZTE, UMG Biobank, and Small Animal Imaging.

<http://www.med.uni-goettingen.de/de/content/forschung/1991.html>

- 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

Contact Details – Referat Forschung



Universitätsmedizin Göttingen
Referat Forschung

Robert-Koch-Str. 42, 37075 Göttingen
forschung@med.uni-goettingen.de

<http://www.med.uni-goettingen.de/de/content/forschung/190.html>

4. Ethikkommission at the UMG

Elisabeth Rathemacher, Doris Wettschereck
09. Dezember 2016

Info-Veranstaltung „Datenmanagement und Service-Einheiten an der UMG“

Geschäftsstelle der Ethik-Kommission

Örtlichkeiten: **Von Siebold-Str. 3**

Geschäftszeiten: **Montag – Freitag**
9:30 – 12:00 Uhr



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

Ethik-Kommission

➤ Aufgabe der EK

- Unabhängige Kommission zur Beurteilung ethischer und rechtlicher Aspekte biomedizinischer Forschung am Menschen

➤ Zuständigkeit der EK

- Für Mitglieder und Angehörige der Medizinischen Fakultät Göttingen oder ihrer Lehrkrankenhäuser

➤ Arbeitsweise

- Die EK wird nur auf Antrag tätig und gibt eine wertende Stellungnahme ab
- Monatliche, nichtöffentliche Sitzung
- Entscheidungen werden dem Antragsteller schriftlich mitgeteilt

Die „Kommission“

- 9 Mitglieder und entsprechende Anzahl Stellvertreter
- Zusammensetzung aus Ärzten, nichtärztlichen Personal und Juristen
- Alle Mitglieder sind ehrenamtlich tätig

Ihre Ansprechpartner

- **Vorsitz:** **Herr Prof. Dr. Brockmöller**
- **Leiterin der**
- **Geschäftsstelle:** **Frau Wettschereck**
- **Ansprechpartner**
 - Für MPG Studien und „sonstige Studien“: **Frau Dr. Friedrich & Herr Langer**
- **Sekretariat:** **Frau Gödicke & Frau Nienstedt**

Studien

➤ AMG –Studien

- Masterkommission oder Beteiligte Ethik-Kommission

➤ MPG-Studien

➤ „sonstige Studien“

- Forschungsvorhaben mit Beratungspflicht nach der Berufsordnung
- Möglichkeit von „Übernahmevoten“
- Anträge nach § 23b MPG
- DOK Anträge für Promotionsvorhaben

(wichtig: Anträge vor Studienbeginn stellen)

Alle wichtigen Informationen:

- Individuelle Termine nach Absprache
- Weitere Informationen auch auf unserer Homepage

www.ethikkommission.med.uni-goettingen.de

5. Advisory services at the Department of Medical Informatics

Dr. Harald Kusch
09. Dezember 2016



Advisory services at Medical informatics Göttingen

Advice for research data management

- Support for design of scientific studies in coordination with Med. Statistics, IFS 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

Example services at Medical informatics Göttingen

- 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 Medical informatics Göttingen

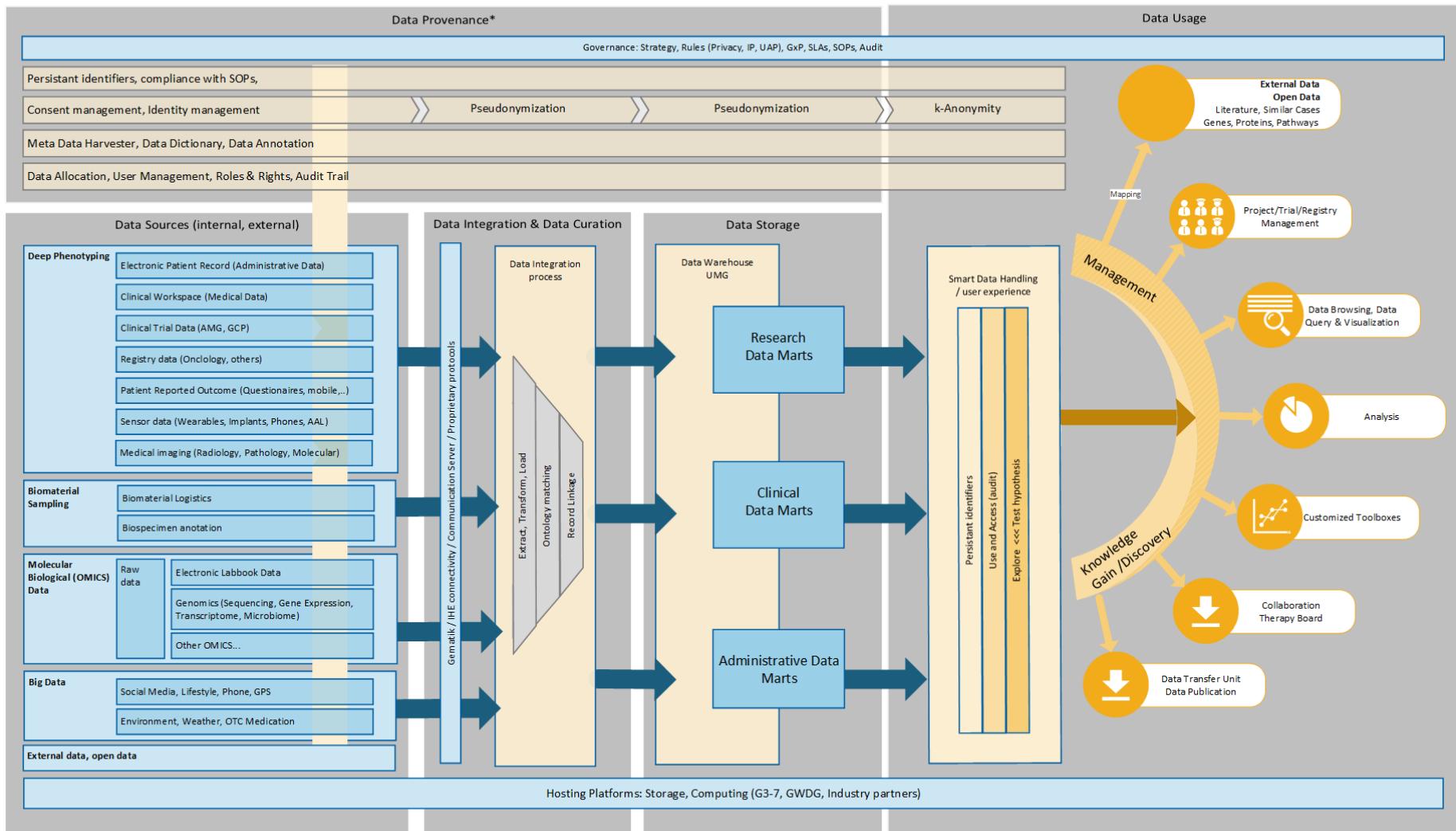
Prof. Dr. Otto Rienhoff	International collaborative research
Prof. Dr. Ulrich Sax	IT-infrastructures for translational research
Thomas Franke	IT-infrastructures for collaborative research Image data management
Karoline Buckow	Register construction, mobile data acquisition
Dr. Nadine Umbach	OMICS-data, stem cell research
Dr. Harald Kusch	Contact to Göttingen eResearch Alliance

Hard- und software infrastructure at Medical Informatics Göttingen

Research Platform
Architecture view

Department of Medical Informatics
University Medical Center Göttingen

UNIVERSITÄTSMEDIZIN
GÖTTINGEN UMG



*Data provenance documents the inputs, entities, systems, and processes that influence data of interest, in effect providing a historical record of the data and its origins.

(Source: Buneman, P., S. Khanna, et al. (2000). Data Provenance: Some Basic Issues)

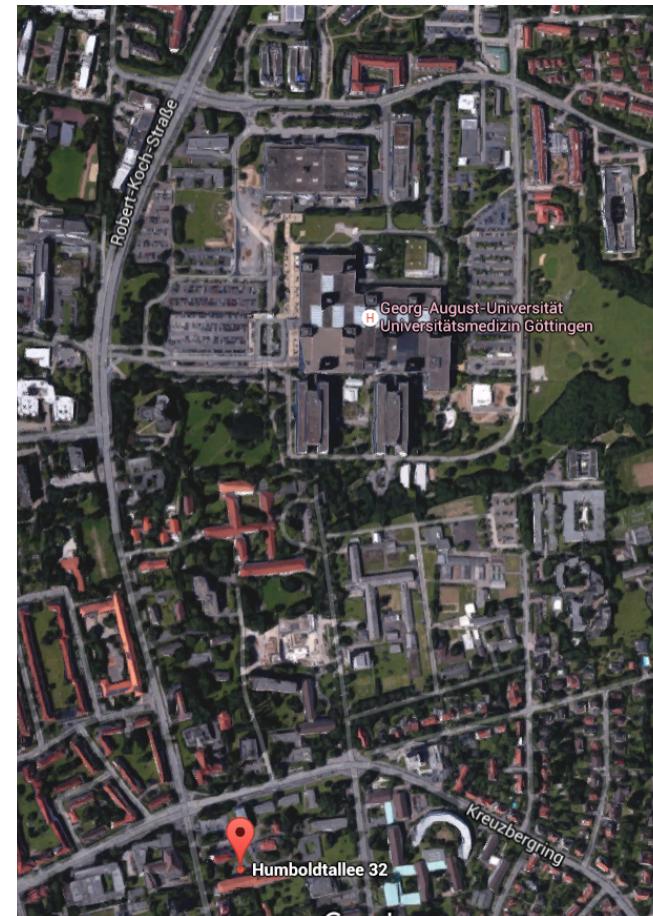
6. Service at the Department of Medical Statistics

Xenia Schulz

Core Facility

Medical Biometry and Statistical Bioinformatics

- ▶ Infrastructure facility of the UMG
- ▶ Located at the Department of Medical Statistics
- ▶ Head of Core Facility: Dr. Andreas Leha
- ▶ Offer assistance in
 - ▶ planning and
 - ▶ evaluation ofscientific studies and experiments
- ▶ Open to all institutions, groups and PhD students at the UMG
- ▶ Depending on capacity, 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
the registration takes place on-site



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)
- ▶ Time schedule available at the departments website
- ▶ No prior appointment necessary
registration takes place on-site

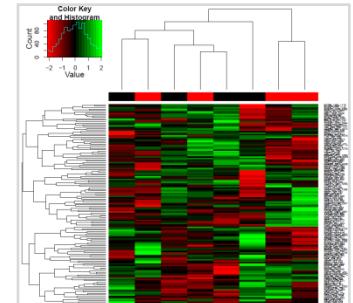
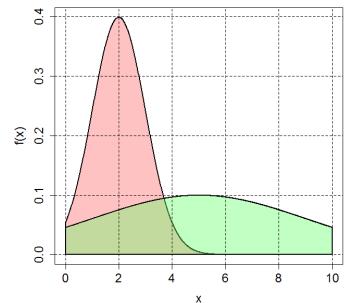


Core Facility

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

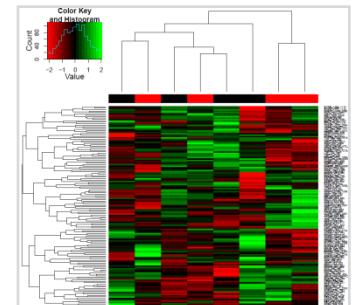
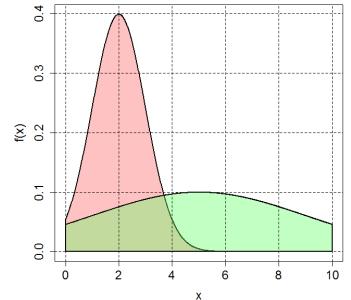


Core Facility

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)



Core Facility

Medical Biometry and Statistical Bioinformatics

Methods and software courses

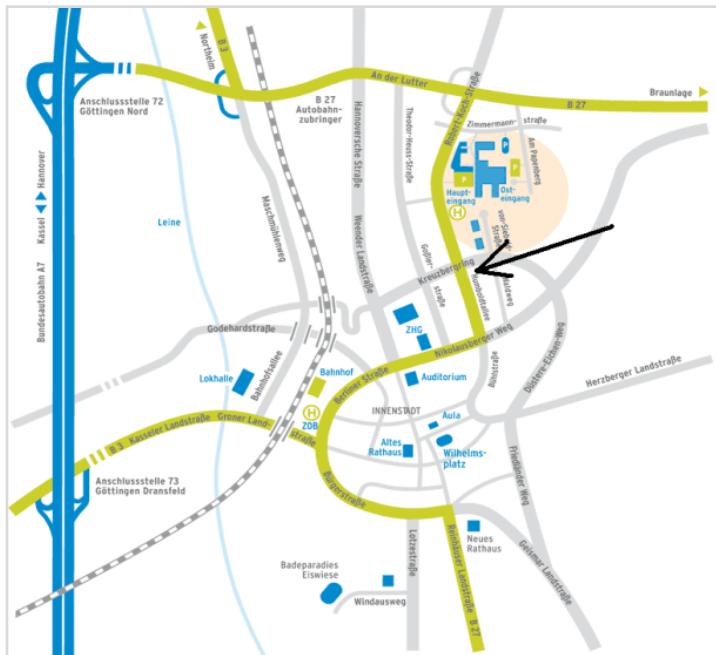
- ▶ Special courses in biometry or bioinformatics methods and software
- ▶ Courses will be announced on the department website



Core Facility

Medical Biometry and Statistical Bioinformatics

Contact



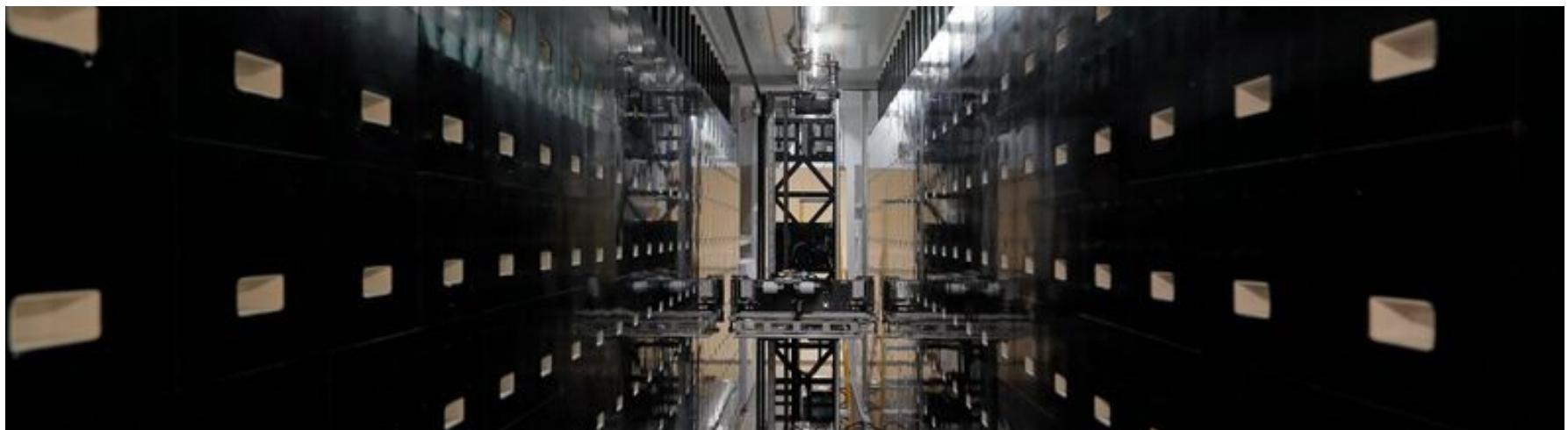
University Medical Center Göttingen
Department of Medical Statistics

37099 Göttingen **Mailing Address**
Humboldtallee 32, 37073 Göttingen **Address**

0551 / 39-4990 **Phone**
0551 / 39-4995 **Fax**

[E-Mail](mailto:service.biometry.bioinformatics@med.uni-goettingen.de)
[Website](http://www.ams.med.uni-goettingen.de/service-en.shtml)

7. Services of the central UMG Biobank



Dr. Sandra Seelke
09. Dezember 2016

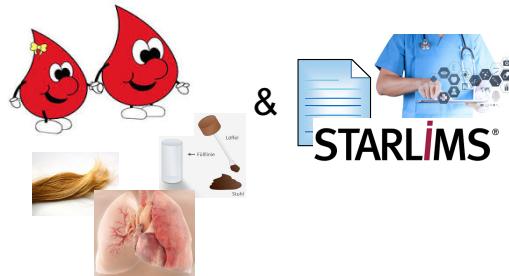
WHAT IS A BIOBANK?

- Centralized service unit at the UMG
- Storage of biomaterial under defined quality conditions and management of corresponding data



WORKFLOW OF A BIOBANK?

Biomaterial and Data



-80°C



Storage



< -130°C



Researcher

AIM

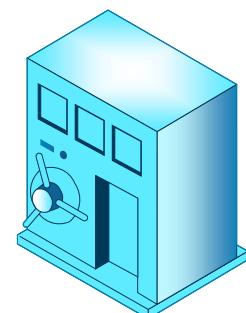
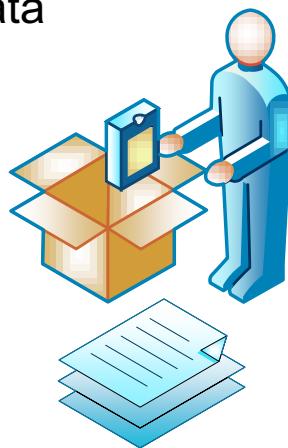
The aim of the UMG Biobank is to support biomedical research by providing high quality data and samples.

Three ways to **get in contact** with the UMG Biobank:

1. Donators / Patients
2. Independent researcher with own research proposal / project
3. Researcher in a clinic or department / project collaborating with the UMG Biobank – sample request

SERVICES

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



CLOSE TO KICK-OFF



ethics

IT systems and interfaces

automation

workflows

frame work documents

Backup strategies

CONTACT DETAILS AND MORE INFORMATION

biobank@med.uni-goettingen.de

www.biobank.med.uni-goettingen.de



Part of **3. Nacht des Wissens** (21.01.2017)

Consultation hours: every 1st Thursday of the month (1-3 pm)

Thanks for your attention!

Are there further questions?

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

info@ereresearch.uni-goettingen.de