

## NMI3-II access to BER II

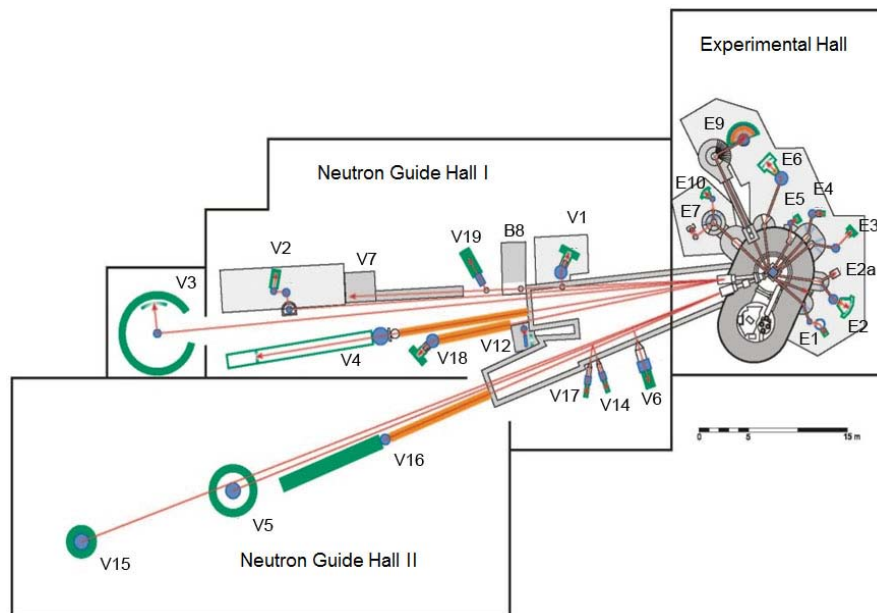
Thomas Gutberlet  
HZB User Coordination Neutrons



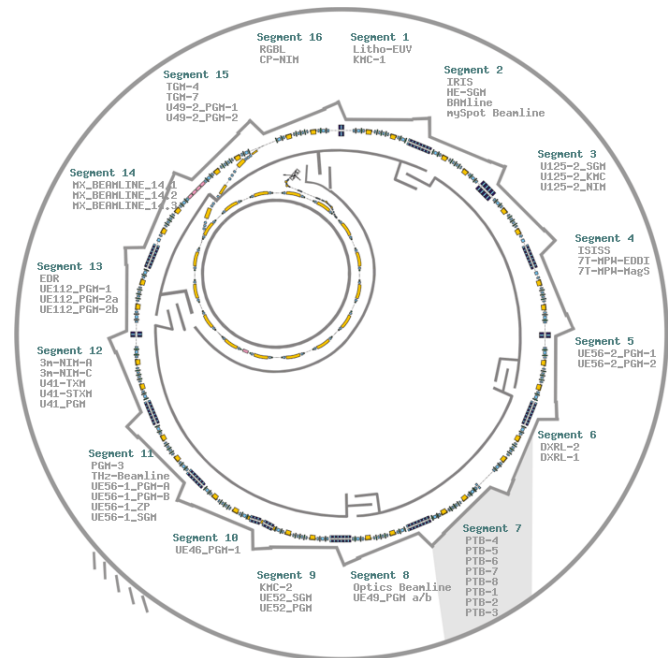
# **HZB offers access to neutron and photon instrumentation at the neutron facility BER II and synchrotron source BESSY II**



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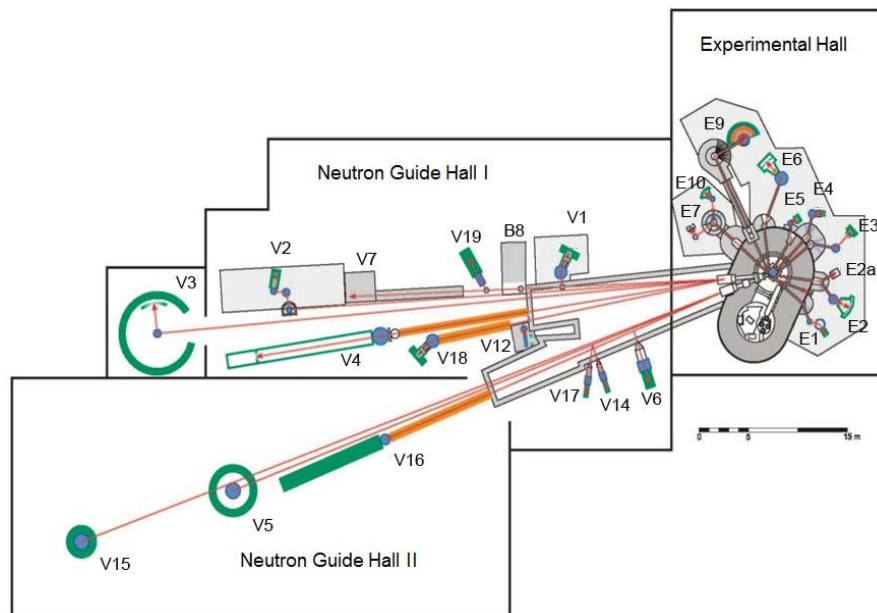


11 thermal instruments  
15 cold instruments  
2 x-ray instruments

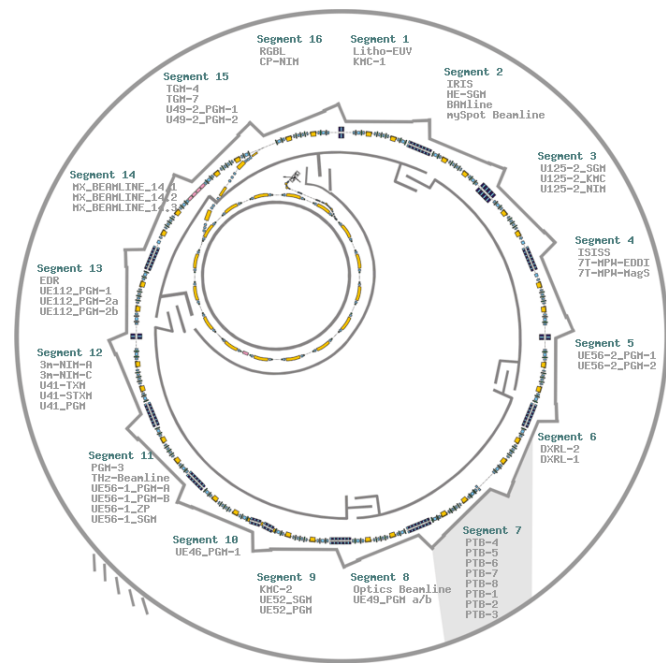


54 beam lines with 41 exp. stations

## HZB offers access to neutron and photon instrumentation at the neutron facility BER II and synchrotron source BESSY II



70 % of beam time external  
30 % in-house

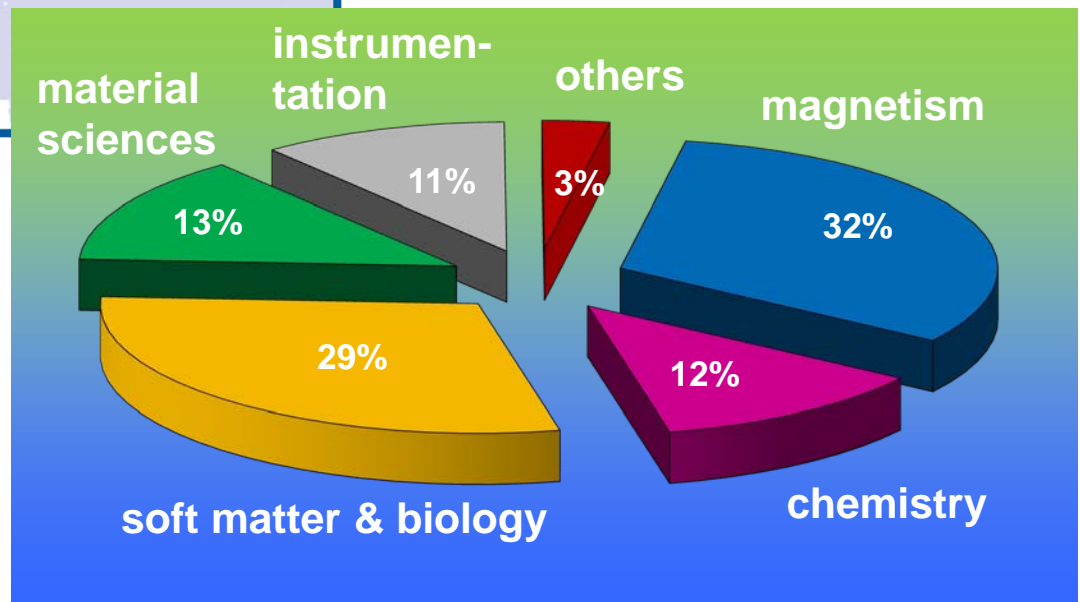


85 % of beam time external  
15 % in-house



## User access to BER II

- ~ 300 external proposal
- ~ 200 experiments scheduled
- ~ 400 scientific visits
- ~ 60 % European users



## Access to neutron instrumentation at BER II

The image displays a screenshot of the HZB-GATE for neutrons website, which is the former BENS Visitors Club. The website is accessed via Mozilla Firefox. The main page features a navigation menu on the left with categories like Overview, Research, User Coordination, Neutrons, and GATE for neutrons. The GATE for neutrons section includes links for Register, Lost password, Offers, and News. The main content area shows the login form with fields for Username (thomas gutberlet) and Password (\*\*\*\*\*), and a Login button. Below the login form are links for New Users: Register and Lost password. The footer indicates the responsible user office is Wannsee.

Call for proposals - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Call for proposals

helmholtz-berlin.de https://www.helmholtz-berlin.de/user/neutrons/user-info/call-for-proposals\_en.html

Online Access GATE - Mozilla Firefox

File Edit View History Bookmarks

Online Access GATE

helmholtz-berlin.de https://www.helmholtz-berlin.de/pubbin/gate

HZB-GATE - Mozilla Firefox

File Edit View History Bookmarks Tools Help

HZB HZB-GATE

helmholtz-berlin.de https://www.helmholtz-berlin.de/pubbin/gate

HZB Helmholtz Zentrum Berlin

Intranet My Intranet Sitemap

Advanced Search Search: all sources

Mainpage > User Coordination > Neutrons > GATE for neutrons > GATE

### HZB-GATE for neutrons

This is the former BENS Visitors Club. Username and password are unchanged.

#### Welcome at the GATE

Login

Username  (lowercase letters)

Password

Login

New Users: Register

Lost password

Go to top of page

Go to top of page

responsible: User Office Wannsee

Favorit Print Version

General Access Tool G... applications to submit proposals, experimental reports, publica... for HZB badges and dosimeters, make reservations in the HZB... etc.

## Access support for users at BER II



- **new NMI3-II funding**  
**Feb. 2012 – Jan 2016**
  - usually support of 1 scientist T&S
- **HZB support of users of German universities**
- **Users have to apply for funding at the User Coordination**



## HZB activities at NMI3-II



### Coordination activities

- WP 5 Integrated User Access
- WP 6 Data Analysis

### TAA

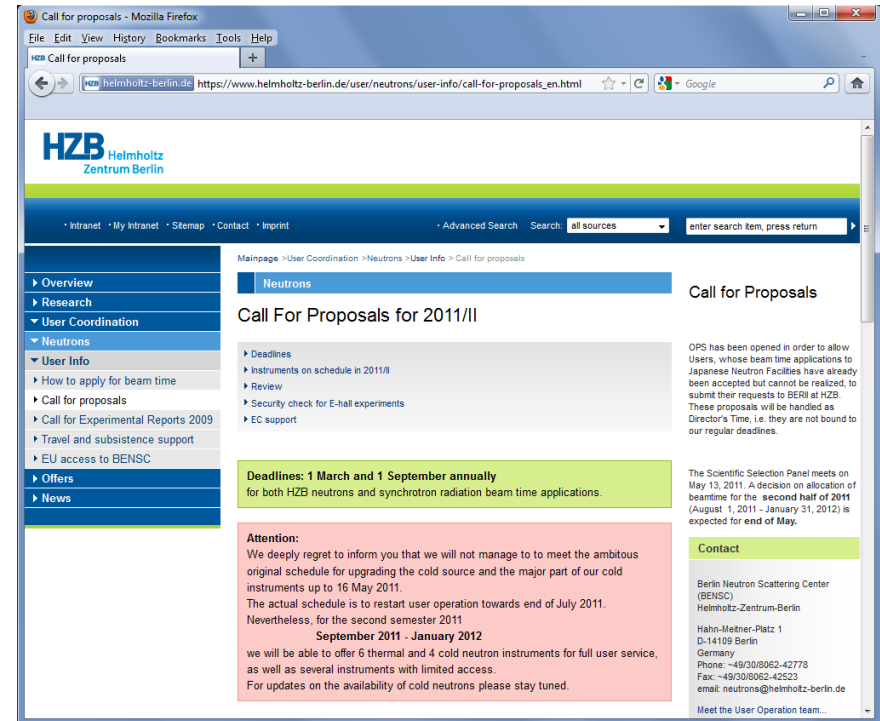
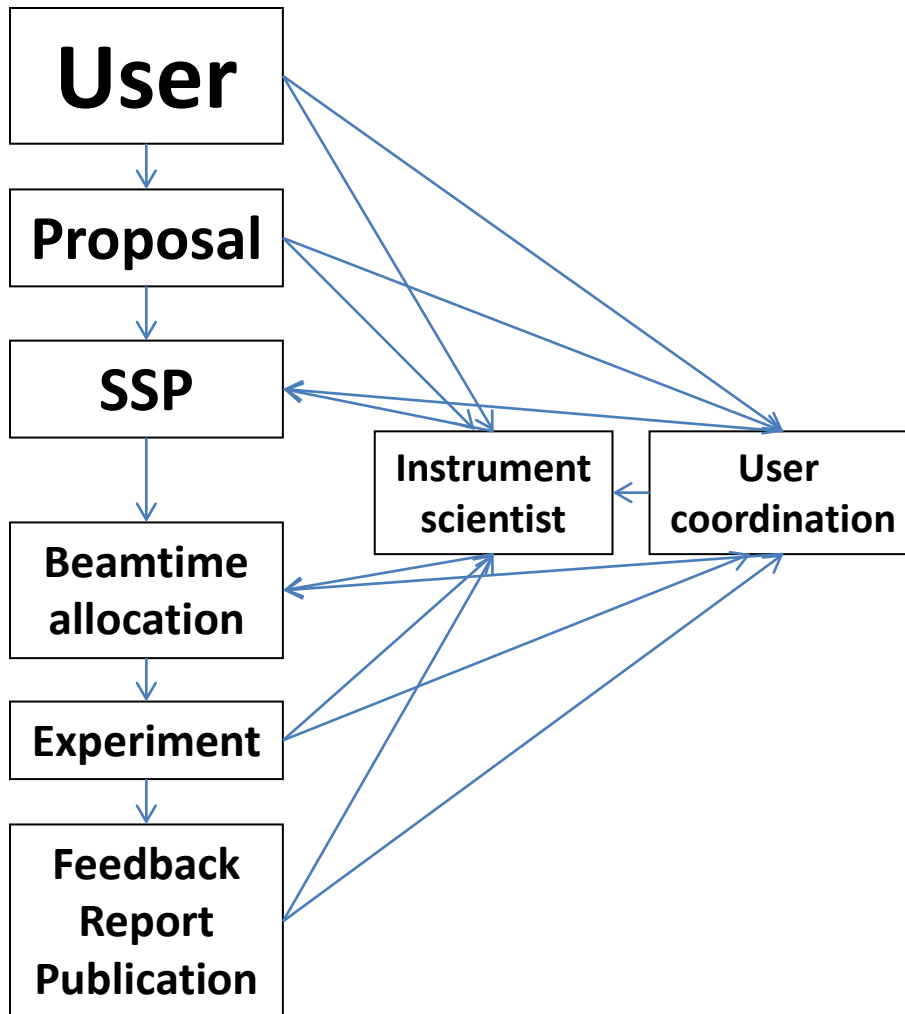
- WP 12, 300 beam days

### RTD/Innovation

- WP 18 Imaging
- WP 20 Advanced Tools  
Soft matter &  
Biology
- WP 21 Detectors



## Proposal – User Workflow

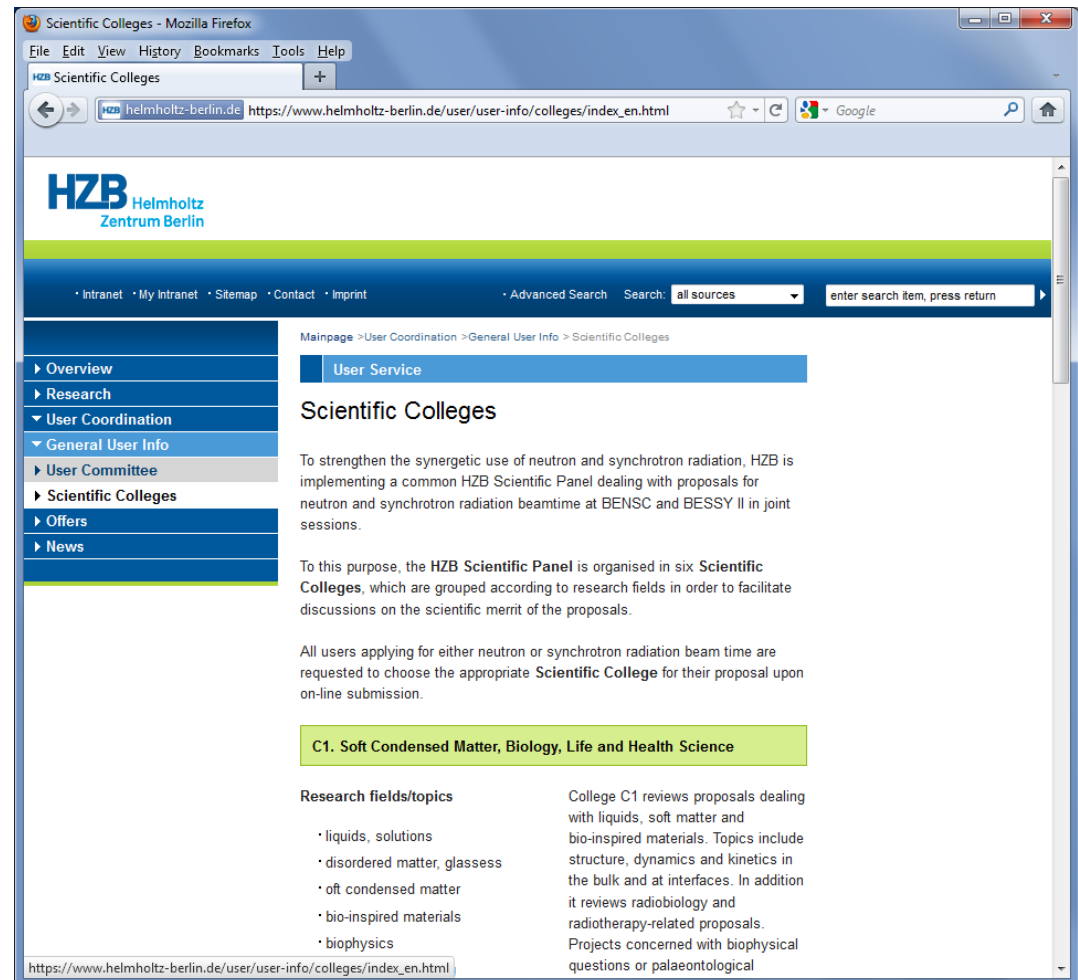


# Proposals are evaluated according to scientific merit

## HZB Scientific Selection Panel (SSP)

### Scientific Colleges:

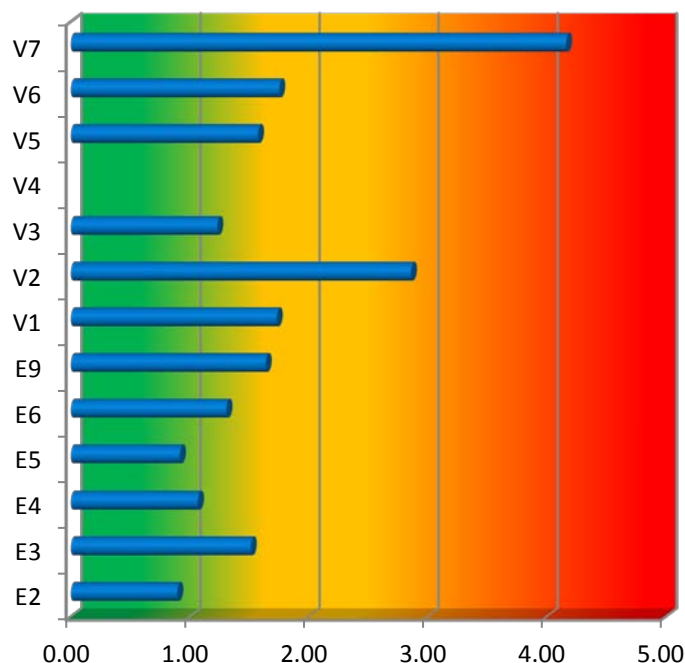
- C1 Soft Condensed Matter, Biology, Life and Health Sciences
- C2 Macromolecular Crystallography
- C3 Chemistry, Catalysis and Diluted Matter Research
- C4 Electronic Structure (not magnetism)
- C5 Magnetism and Superconductivity
- C6 Material Sciences and Hard Condensed Matter



## Overbooking at BER II neutron instruments

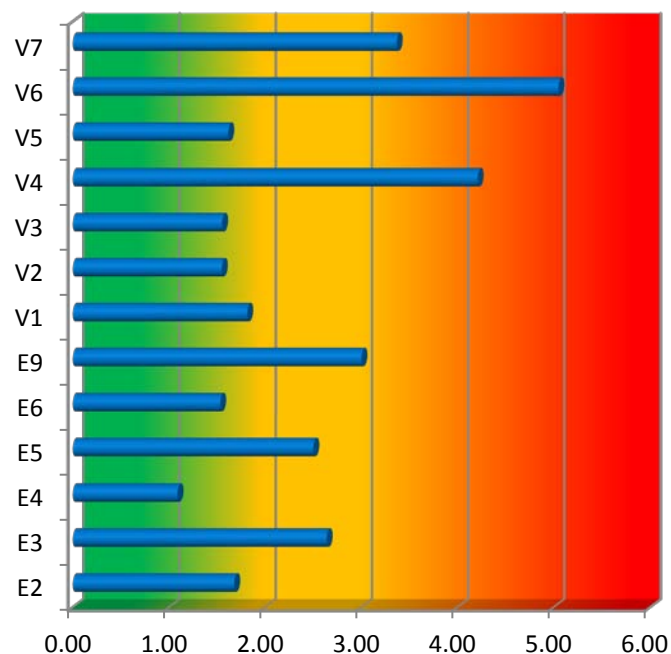
### Proposal round 2010-I and 2010-II

Overload 2010/I



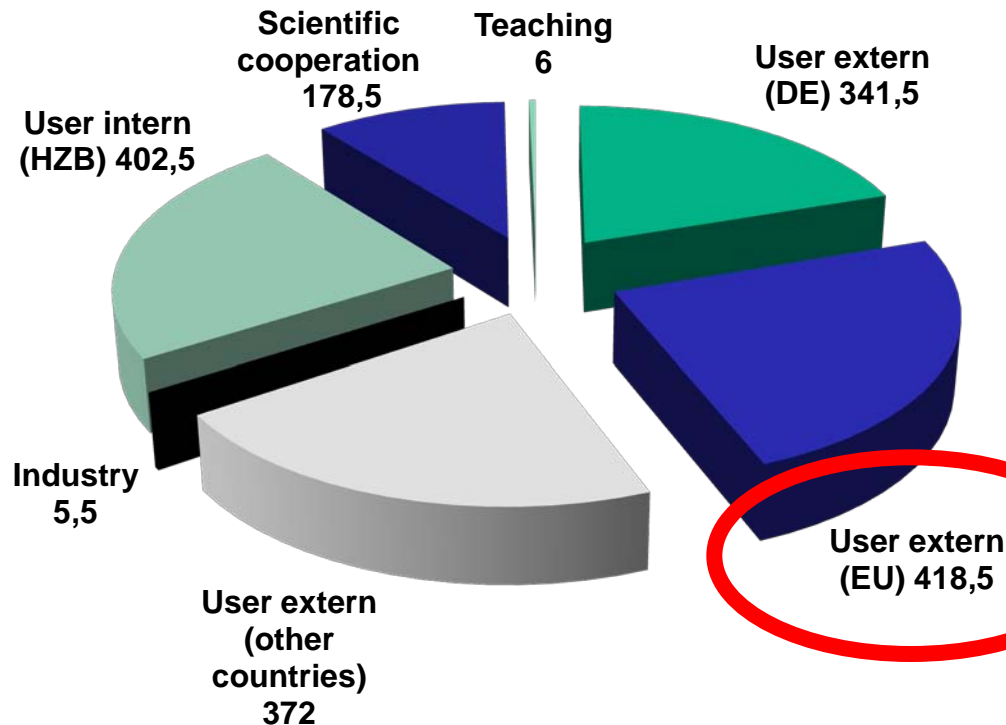
Available beam time: 594 beam days  
Requested beam time: 914 beam days

Overload 2010/II



Available beam time: 452 beam days  
Requested beam time: 941 beam days

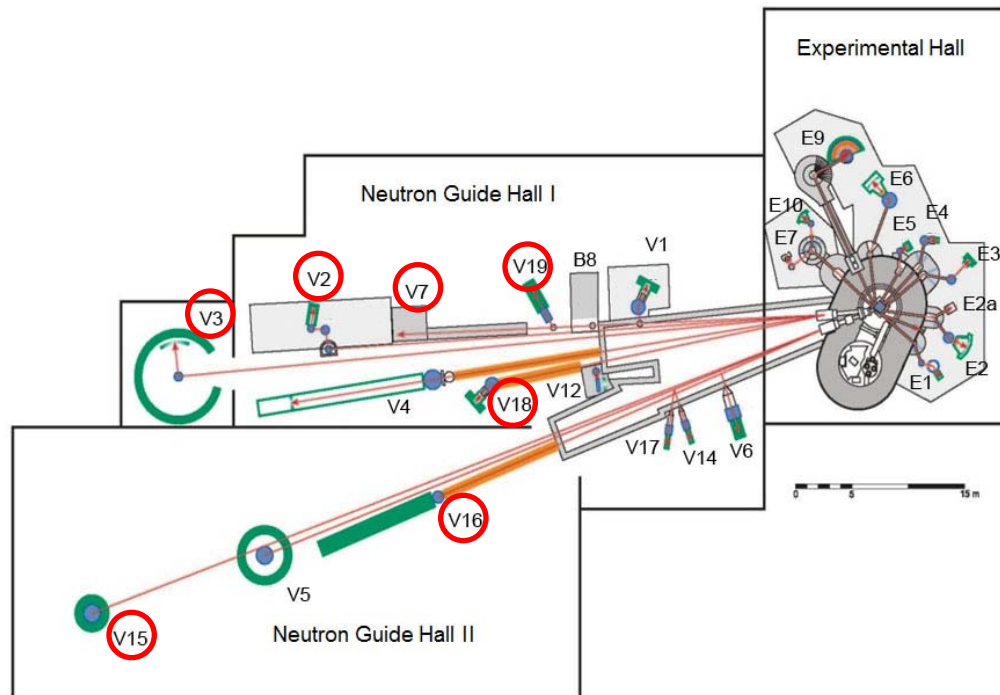
## Beam days neutron instruments at BER II used in 2010 (Jan.-Oct.)



**37 % of all  
external  
beamtime**

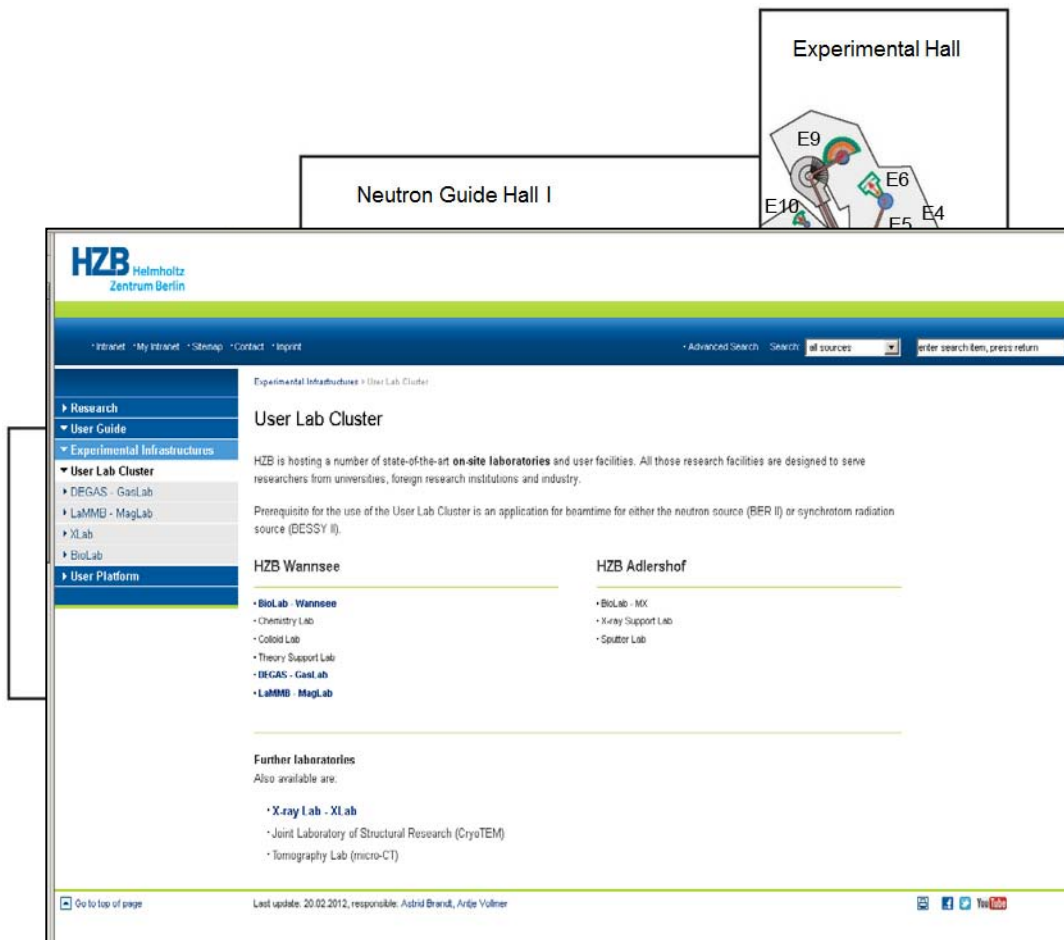
Used beam days in total: 1725 beam days  
extern used: 1137.5 beam days (66 %)

## Up-grade of beamlines and source at BER II



- up-grade of cold source
- up-grade of neutron guides in neutron guide hall I
- up-grade of FLEX (2012)
- up-grade CONRAD (2011)
- up-grade of NEAT (2013)
- new PONTO II (2013)
- commissioning VSANS
- commissioning BioRef
- EXED

## User supporting sample environment and laboratories



**Sample environment at instruments**  
(cryostats, furnaces, magnets, pressure cells, gas atmospheres)

### Laboratory facilities

- BioLab
- Chemistry Lab
- Colloid Lab
- MagLab
- X-ray Support Lab
- Applied Materials Lab
- Sputter Lab
- Theory Support Lab

### Radiation facilities

- NAA

## Theory Support Lab (J. Dzubiella, F-I2)

### ➤ Basic service:

Support for numerical analysis, fitting, and possible theoretical interpretation of (neutron and X-ray) scattering data

### ➤ Software / numerical methods

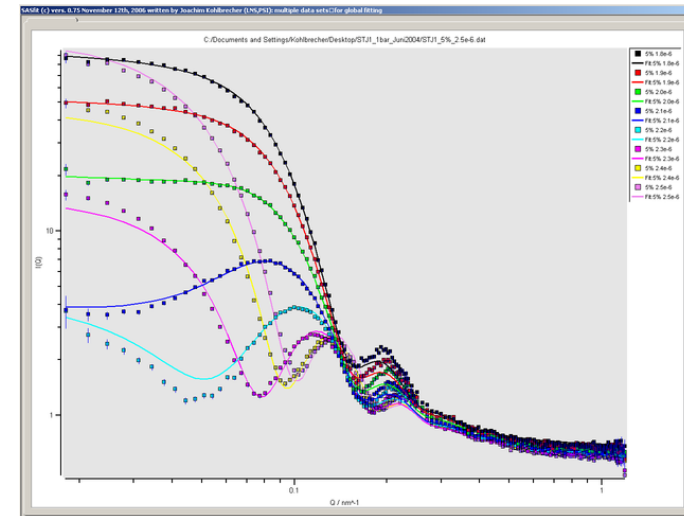
SANS: *egraph* (Data recording / export)

→ *Mantid* (Data gathering / reduction)

→ *SANSfit* (Fitting by form and structure factors)

→ support for inclusion of nonstandard form and structure factors

ASAXS:?



### ➤ Advanced methods / statistical physics

(long term proposals / collaboration)

integral equation theory (IET), density functional theory (DFT),

computer simulations: Monte-Carlo (MC), molecular dynamics (MD)

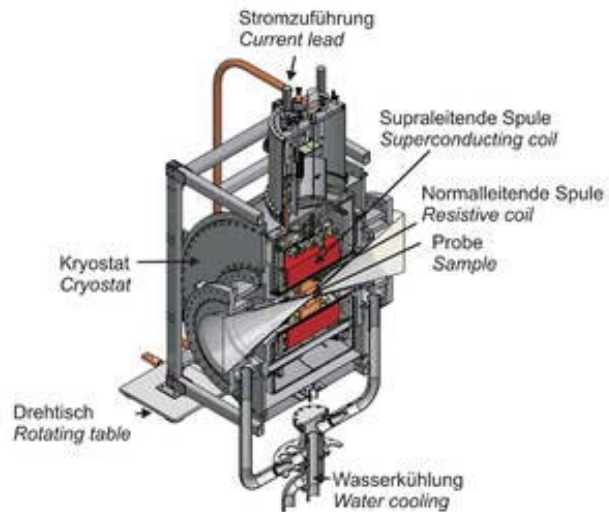


## MagLab (**L**aboratory for **M**agnetic **M**easurements at the **H**elmholtz-Zentrum **B**erlin **L**a**M**MB) (K. Kiefer NP-H21)

- cooperation of M-I1 and NP-H12
- central access to low temperature and high magnetic fields
- presently 5 cryomagnets operational up to 17T and down to 50 mK
- $\geq 100$  experiments per year
- combination of standard and highly specialized equipment
- magnetization, heat capacity, electric resistivity, dielectric properties



## High Magnetic Field Project



### High Field Magnet for neutron scattering reaching 25-31 T

- total investment costs ~20 million €
- construction time of ~5 years
- start 2007



## GATE - the common HZB user access portal

The image displays three overlapping screenshots of the GATE web portal, which is the common HZB user access portal. The portal is accessed via Mozilla Firefox.

**Top Screenshot (Login Page):** The URL is `https://x-divgatedev.hmi.de/Defaults`. It features the HZB Helmholtz Zentrum Berlin logo and a navigation menu with options: Login, Recover password, and Registration. The login form includes fields for Username (with 'tester' entered) and Password (with masked characters), a 'go' button, and a note: '\* denotes required fields'.

**Middle Screenshot (User Profile Page):** The URL is `https://x-divgatedev.hmi.de/User/User_Basic/profile`. It shows the user's profile information under the heading 'Personal data'. Fields include Gender (Mr), Title (Dr), Firstname (Thom), Lastname (Gutberlet), Initials, Name at birth, Birthdate (1955), Your nationality (Ger), Email address (thom.gutberlet@hzberlin.de), Profession (Test), Academic degree (Exp), Your organisation, Department, Street, Zip code, City, and Country. A sidebar menu on the left includes options: Logout, System Administrator, User Office, User menu, Your account, and Proposer.

**Bottom Screenshot (Proposal Submission Page):** The URL is `https://x-divgatedev.hmi.de/Proposer/Proposer_Proposal/generalPart`. It shows the 'General part' of a new proposal form. Fields include Main proposer (Thomas Gutberlet), Title, Abstract, and Funding (a dropdown menu with 'Select' chosen). A 'save' button is at the bottom right. A sidebar menu on the left includes options: Logout, System Administrator, User Office, User menu, Proposer, new Proposal, and Proposal list. A legend on the right indicates the parts of the proposal: 1. General part, 2. Scientific part, 3. Technical part, 4. Link prev. results, 5. Submit proposal. A note at the bottom states: '\* denotes required fields'.

# Neutrons meet User

## HZB User Coordination Neutrons

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[www.helmholtz-berlin.de/user](http://www.helmholtz-berlin.de/user)

Thank you

