



Niedersächsisches Ministerium
für Wissenschaft und Kultur

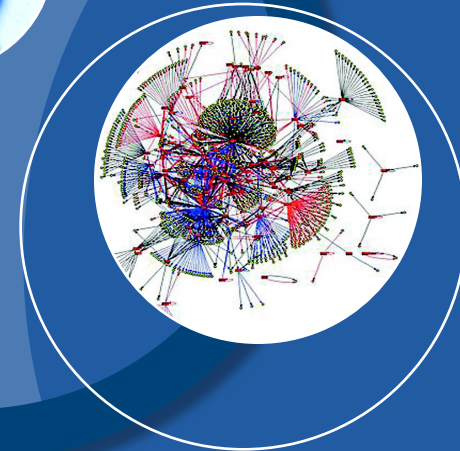
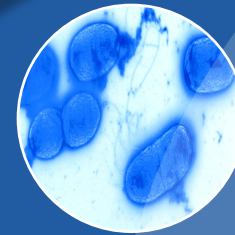

TRAIN

Translationsallianz in Niedersachsen



TRAIN – the Translational Alliance in Lower Saxony

Prof. Dr. Ulrich Kalinke
Executive Director TWINCORE
Head of TRAIN office



The TRAIN Partners



- Helmholtz Centre for Infection Research, Braunschweig (HZI)
- Hannover Medical School (MHH)
- Fraunhofer Institute for Toxicology and Experimental Medicine (ITEM), Hannover
- University of Veterinary Medicine Hannover (TiHo)
- Leibniz University Hannover (LUH)
- Technical University Braunschweig (TU BS)
- TWINCORE, Centre for Experimental and Clinical Infection Research GmbH, Hannover
- Vakzine Projekt Management GmbH, Hannover (VPM)



Medizinische Hochschule
Hannover





Mission:

- TRAIN is the biomedical Translational Alliance in Lower Saxony
- TRAIN bundles knowhow and infrastructure of universities and non-university research institutions to accelerate drug development (initiated 12/2008)

Objectives:

- Regional networking of competencies to enable a pharmaceutical added value chain
- Identification and development of new drug candidates for internal and external clients
- Translation of results from basic research to preclinical and clinical development (and vice versa)
- One stop shop for external clients

TRAIN partners co-operate to establish state-of-the-art facilities

Leibniz University
Hannover (LUH)

Synthesis of new APIs and
natural compounds

Chemistry-Mathematics-Biology

Helmholtz Centre for
Infection Research
(HZI)

Mechanisms of infection,
vaccines, natural compounds

Biology-Medical Research

University of Veterinary
Medicine Hannover
(TiHO)

Zoonosis research,
animal models

From Research to Clinic

TRANSLATION

BRICS

Completion
2017

2014
**Wirkstoff-
Zentrum**

Completion
2017

Twincore

**Zoonosis-
Centre**

Completion
2014

CRC

Completion
2014

Technical University
Braunschweig (TU BS)

Systems biology,
bioinformatics, microbiology

Hannover Medical School
(MHH)

Tumor research, infectious diseases,
nosocomial pathogens,
tumor tissue bank

Fraunhofer Institute for
Toxicology and
Experimental Medicine
(ITEM)

Drug research,
toxicology, pharmacology
and GMP-production

TRAIN Activities



Coordination Platform

- Infrastructure
- Research foci
- New initiatives

- Bi-annual meetings, or more frequently

Facilitation Platform

- Advanced *in vivo* imaging
- Bioinformatics
- Infection models
- Natural product screenings
- etc...

- Working group meetings
- Information provided by intranet

Communication Platform

- Provision of general information
- Spin-off activities
- Central Contact Point for
 - academic cooperations
 - industrial cooperations

- Internet
- Counseling (external and internal)

Networking Platform

- Representation of TRAIN in the public
- Liaison with decision makers

- Attendance of meetings
- Organization of meetings
- Organization of exhibition stands
- Contact with representatives of politics and industry

Current Infrastructure Projects



- **CRC** – Clinical Research Centre
Early clinical studies (ITEM, MHH, HZI), operative in 2014, official inauguration on September 8, 2014



- **BMWZ Biomolekulares Wirkstoffzentrum** – Connection of chemical biology and medicinal chemistry (LUH, HZI), development of new drug candidates, operative in 2014, official inauguration on September 11, 2014



- **DRFG - Drug Research and Functional Genomics Center** - Using the natural product collection for the development of new drug candidates, operative in ~2017



- **Zoonosis Centre** – TiHo
Mechanisms of host pathogen interactions as well as new prevention strategies and therapies of zoonotic diseases, fully operative in 2015



- **BRICS** – Braunschweig Integrated Centre for Systems Biology (TU BS, HZI)
Biologists, mathematicians, IT scientists and engineers jointly develop complex biological processes, operative in ~2017

Current Infrastructure Projects



CRC – Clinical Research Centre Early clinical studies (ITEM, MHH, HZI)

- The CRC is in the final construction phase and the setwise handover to the users will start end of April 2014.
- The HZI is planning the first studies for the National Cohort in May 2014.
- MHH and ITEM schedule initiation of clinical trials in Q3 2014.
- The total financial volume is appr. € 40 million for the construction and instrumentation (without imaging devices).

Official inauguration on
September 8, 2014



Current Infrastructure Projects



BMWZ – Biomolekulares Wirkstoffzentrum

Connection of chemical biology and medicinal chemistry (LUH, HZI)

- The chemical part of the center (BMWZ, approximately €22 million) is expected to be ready in the first half of 2014.
- This provides approximately 85 lab workplaces for biomedical research that are almost equally attributable to chemical and biological techniques.
- Additionally, a 850 MHz NMR device is purchased, which can be used for the study of biological macromolecules with small molecules. This NMR device completes the methods in structural biology that are already established at HZI and MHH.

**Official inauguration on
September 11, 2014**



Current Infrastructure Projects



DRFG - Drug Research and Functional Genomics Center

- The DRFG on the campus of the HZI (a part of the space is reserved for DSMZ and TU-BS), together with the BMWZ in Hannover, builds part of the “Niedersächsische Wirkstoffzentrums”.
- The completion is expected for 2017.
- The project is funded by the government of Lower Saxony, the Helmholtz Association and the HZI.



Current Infrastructure Projects



Zoonosis Centre – TiHo

Mechanisms of host-pathogen interactions, new preventive strategies and therapies of zoonotic diseases

- At TiHo there is currently being constructed a research building, which can be used for projects within the meaning of TRAIN.
- The center is expected to be ready for moving in in Q3 of 2014.
- The construction costs amount to € 22 million.
- The interior construction work has already begun.



Current Infrastructure Projects



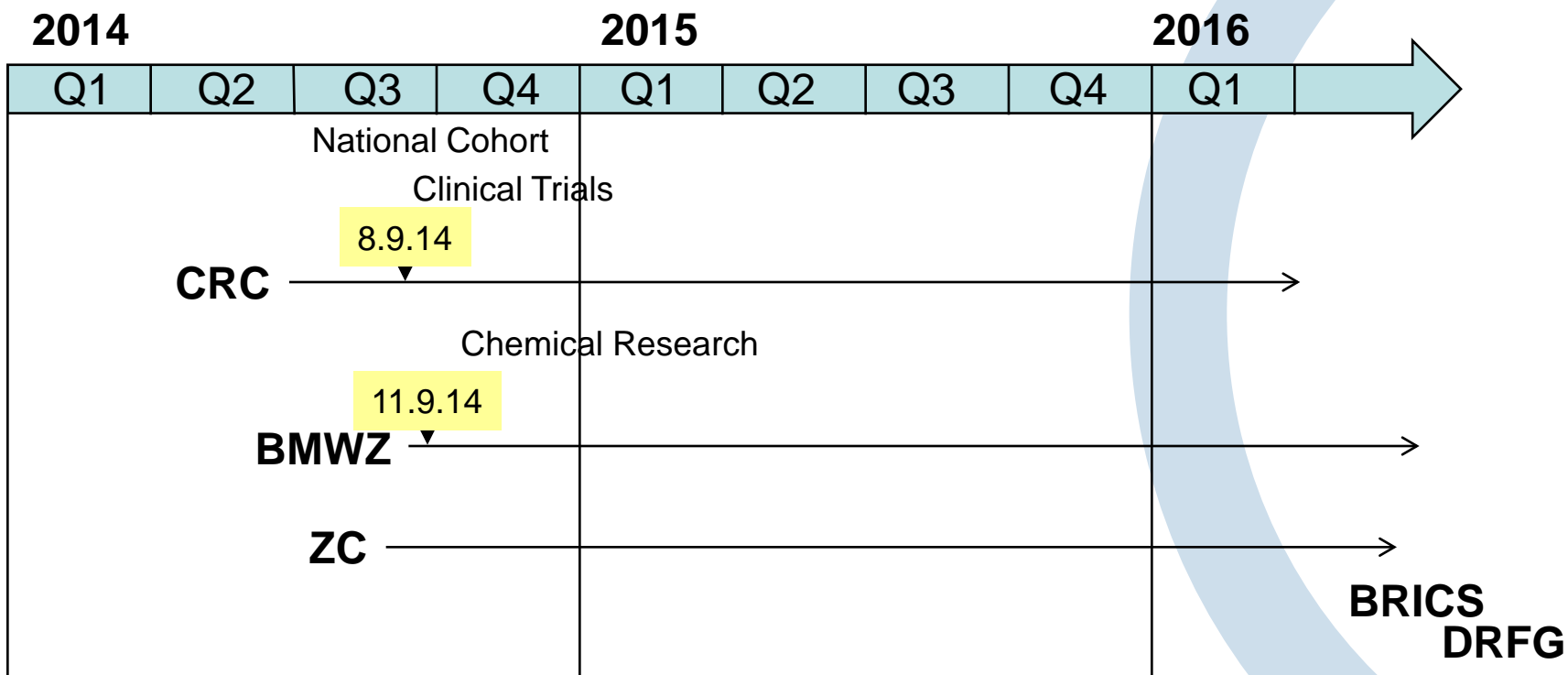
BRICS – Braunschweig Integrated Centre for Systems Biology

Biologists, mathematicians, IT scientists and engineers jointly study complex biological processes (TU BS, HZI)

- The foundation stone was laid in August 2013, completion is planned for the end of 2015.
- For the construction of the Braunschweig Integrated Centre for Systems Biology (BRICS) the state of Lower Saxony, the Technical University of Braunschweig and the HZI invest a total of approximately € 25 million.
- About 3,500 square meters for laboratories, offices, seminar and lab rooms will be created.

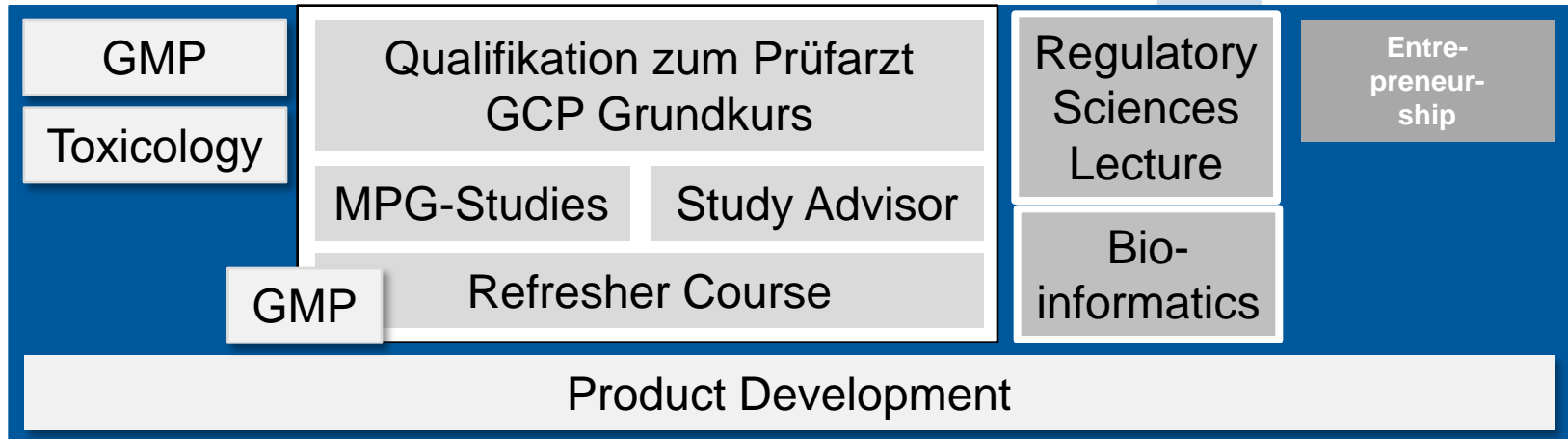


Time Line of Current Infrastructure Projects





TRAIN Academy for Translational Medicine



Facilitation



Facilitation Platform:

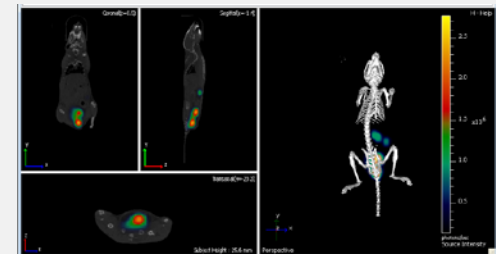
- Advanced *in vivo* imaging
- Bioinformatics
- Next generation sequencing
- Natural product screenings
- Infection models
- Electron microscopy
- Cell analysis and sorting
-

Joint platform technologies

- 1st example: In vivo imaging, IVIS-CT at TWINCORE
- Cooperation between MHH, HZI and TWINCORE initiated
- TiHo has been approached to join



Citrobacter rodentium infection



Courtesy of Gad Frankel & James Collins



June 3, 2014: The absorbable surgical screw



Claassen

Windhagen



Niedersächsisches Ministerium
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Thank you for your attention!

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