

2<sup>nd</sup> ANNOUNCEMENT WITH LECTURE PROGRAM

March 10<sup>th</sup>-12<sup>th</sup>, 2011

# The 5<sup>th</sup> Glycan Forum in Berlin

Glycobiotechnology – new developments  
for medicine, pharmaceuticals and nutrition

## Main topics

- Glycomics and systems biology
- Vaccines
- Glycoscience in pharmaceutical research
- Application of glycobiotechnology for nutrition
- Glycobiotechnology of glycoproteins
- GlycoNanomedicine and glycobiology

HARNACK-HAUS

IHNSTRASSE 16-20 · 14195 BERLIN-DAHLEM



Freie Universität



Berlin



Max Planck Institute  
of Colloids and Interfaces



The Berlin Glycan Forum series initiated in 2003 wishes to promote communication and cooperation of scientists from research institutions and companies in the field of glycosciences. The complexity of glycans makes their synthesis and analysis difficult and has delayed their recognition as important building blocks of life alongside nucleic acids, proteins and lipids. Recent great achievements in research have clearly shown that glycans of glycoproteins, glycolipids and polysaccharides have central roles in virtually all important biological processes and play a significant role in the pathogenesis of diseases. Moreover, new technologies like automated synthesis of carbohydrates are now paving avenues for the biomedical application of glycosciences in diagnostics and therapy.

The 5<sup>th</sup> Glycan Forum will give an overview of the recent developments in the field of glycobiotecnology with a focus on biomedical application, including vaccines, carbohydrate-based drugs and carbohydrates as diagnostic biomarkers, and on application for nutrition. With presentations from basic and applied research, the 5<sup>th</sup> Glycan Forum will provide a forum for lively debate and exchange of ideas and experience among scientists and companies.

**We cordially invite you to join the forum and discuss the perspectives of this rapidly developing research area with us.**

**The Journal of Carbohydrate Chemistry will publish a special issue based on the conference.**

HARNACK-HAUS

WWW.HARNACKHAUS-BERLIN.MPG.DE

## THURSDAY, MARCH 10<sup>TH</sup>, 2011

### Opening / Opening lecture

- 14:00 – 15:05 **Welcome and Introduction**  
Monika Schäfer-Korting Berlin  
Annette Grütters-Kieslich (to be confirmed) Berlin  
Rudolf Tauber Berlin  
Peter Seeberger Berlin
- Synthetic antitumor-vaccines from mucin glycopeptide antigens**  
Horst Kunz Mainz

### Glycomics and systems biology I

- 15:05 – 15:55 **Glycomic tools for seromic profiling**  
Ola Blixt Copenhagen
- Preparation of an N-glycan microarray by combining modular synthesis of core structures with on-chip nanoscale enzymatic extension**  
Niels Reichardt San Sebastián

### 15:55 – 16:25 Coffee Break

### Glycomics and systems biology II

- 16:25 – 18:05 **Carbohydrate-binding proteins from pathogenic microorganisms as targets for drug development**  
Faustin Kamena Berlin
- Carbohydrate microarrays-prerequisites, manufacturing and applications**  
Holger Eickhoff Berlin
- Structural glycomics of humoral immune responses employing mass spectrometry and glycan arrays**  
Manfred Wuhrer Leiden
- Computational carbohydrate threading identifies novel ligand binding specificities for a diagnostic protein**  
Robert Woods Athens
- Understanding a complex oligosaccharide on various scales: the GPI molecule**  
Mark Santer Potsdam

- 18:05 **Poster discussion, gathering for evening program and conference dinner**



FRIDAY, MARCH 11<sup>TH</sup>, 2011

## Vaccines I

- 09:00 – 10:25 **Automated synthesis as platform for the discovery of carbohydrate vaccine candidates**  
Peter Seeberger Berlin
- Synthetic carbohydrate antigens enabling new glycoconjugate vaccines**  
Stewart Campbell Boston
- Design of glycoconjugate vaccines**  
Paolo Costantino Siena

10:25 – 10:55 **Coffee Break**

## Vaccines II

- 10:55 – 12:35 **Paradigm shift in development of multivalent glycoconjugate vaccines**  
Michael Wacker Schieren
- Carbohydrate structures as vaccine antigens – structure and function**  
Jan ter Meulen West Point
- Preclinical development and characterization of *Staphylococcus aureus* conjugate vaccine**  
Vilo Pavliak Pearl River
- A well-defined liposomal lipooligosaccharide- and TbpB-based vaccine to prevent invasive group B meningococcal disease: physico-chemical characterization and immunological properties**  
Noëlle Mistretta Lyon

12:35 – 13:40 **Lunch**

## Glycoscience in pharmaceutical research

- 13:40 – 15:40 **Discovery of Rivaroxaban (Xarelto<sup>TM</sup>), a novel, oral antithrombotic agent**  
Susanne Röhrig Wuppertal
- Developing of carbohydrate based drugs for respiratory diseases**  
Deirdre Coombe Subiaco
- New C-glycosylation methodology**  
Sébastien Lemaire Beerse
- Glycosylation of recombinant biopharmaceuticals**  
Harald Conradt Hannover

15:40 – 16:10 **Coffee Break**

## Application of glycobotechnology for nutrition

- 16:10 – 17:25 **Learning from breast milk: functional dietetic glycans**  
Bernd Stahl Friedrichsdorf
- Human milk oligosaccharides**  
Lars Bode San Diego
- Lessons from neonatal feeding to functional glyco-nutrients for elderly, diseased and back**  
Norbert Sprenger Lausanne
- 17:25 **Poster discussion and gathering for evening program**

**SATURDAY, MARCH 12<sup>TH</sup>, 2011****Glycobiotechnology of glycoproteins**

- 09:00 – 11:00 **Glycooptimization of biopharmaceuticals**  
Steffen Goletz Berlin
- Chemical synthesis of bioactive homogeneous glycoproteins and evaluation of its oligosaccharide functions**  
Yasuhiro Kajihara Osaka
- Towards efficient glycan synthesis through directed evolution of glycosyl transferases**  
Stephen Withers Vancouver
- Metabolic oligosaccharide engineering of glycoproteins-application of novel sialic acid precursor molecules**  
Stephan Hinderlich Berlin

11:00 – 11:30 **Coffee Break****GlycoNanomedicine and glycobiology I**

- 11:30 – 13:10 **The Glyco-BioInterface – Sugar structures and galectins on biomaterial surfaces**  
Lothar Elling Aachen
- Multivalent dendritic inhibitors for inflammations and viral infections**  
Rainer Haag Berlin
- High throughput / High resolution glycosylation pattern analysis of monoclonal antibodies by capillary electrophoresis**  
Andras Guttman Boston
- Changes of serum glycome in patients suffering from ovarian cancer**  
Véronique Blanchard Berlin

13:10 – 14:10 **Lunch****GlycoNanomedicine and glycobiology II**

- 14:10 – 16:15 **Biosynthesis of the cell coat of eukaryotic pathogens: New enzymes, new targets**  
Françoise Routier Hannover
- Glycosidated phospholipids: a novel type of antiproliferative compounds**  
Kerstin Danker Berlin
- C-Type lectin receptors as targets for immune intervention**  
Bernd Lepenies Berlin
- A fragment-based approach to high-affinity glycomimetics**  
Beat Ernst Basel
- Role of carbohydrates in the interaction of schistosomes with their hosts**  
Rudolf Geyer Gießen

16:15 – 16:20 **Concluding remarks and farewell****End of the 5<sup>th</sup> Glycan Forum Berlin**



**Blanchard, Véronique**

Charité – Universitätsmedizin Berlin, Germany

**Blixt, Ola**

University of Copenhagen, Denmark

**Bode, Lars**

University of California, San Diego, USA

**Campbell, Stewart**

Ancora Pharmaceuticals Inc., Boston, USA

**Conradt, Harald**

GlycoThera GmbH, Hannover, Germany

**Coombe, Deirdre**

Glycan Biosciences Pty Ltd, Subiaco, Austria

**Costantino, Paolo**

Novartis Vaccines & Diagnostics, Siena, Italy

**Danker, Kerstin**

Charité – Universitätsmedizin Berlin, Germany

**Eickhoff, Holger**

Scienion AG, Berlin, Germany

**Elling, Lothar**

RWTH Aachen, Germany

**Ernst, Beat**

University of Basel, Switzerland

**Geyer, Rudolf**

University of Gießen, Germany

**Goletz, Steffen**

Glycotope GmbH, Berlin, Germany

**Grüters-Kieslich, Annette**

Charité – Universitätsmedizin Berlin (to be confirmed), Germany

**Guttman, Andras**

Barnett Institute, Northeastern University, Boston, USA

**Haag, Rainer**

Freie Universität Berlin, Germany

**Hinderlich, Stephan**

University of Applied Sciences Berlin, Germany

**Kajihara, Yasuhiro**

Osaka University, Osaka, Japan

**Kamena, Faustin**

Max Planck Institute of Colloids and Interfaces, Berlin, Germany

**Kunz, Horst**

University of Mainz, Germany

**Lemaire, Sébastien**

Johnson & Johnson Pharmaceutical Research & Development, Beerse, Belgium

**Lepenies, Bernd**

Max Planck Institute of Colloids and Interfaces, Berlin, Germany

**Meulen, Jan ter**

Merck & Co., Inc., West Point, USA

**Mistretta, Noëlle**

Sanofi Pasteur, Marcy L'Etoile, France

**Pavliak, Vilo**

Pfizer Pharmaceuticals Inc, Pearl River, USA

**Reichardt, Niels**

CICbiomaGUNE, Biofunctional Nanomaterials Group, San Sebastian, Spain

**Röhrig, Susanne**

Bayer Schering Pharma AG, Wuppertal, Germany

**Routier, Françoise**

Hannover Medical School, Germany

**Santer, Mark**

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**Schäfer-Korting, Monika**

Freie Universität Berlin, Germany

**Seeberger, Peter**

Max Planck Institute of Colloids and Interfaces, Berlin, Germany

**Sprenger, Norbert**

Nestlé Research Center, Lausanne, Switzerland

**Stahl, Bernd**

Danone Centre for Specialised Nutrition, Friedrichsdorf, Germany

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Charité – Universitätsmedizin Berlin, Germany

**Wacker, Michael**

GlycoVaxyn AG, Schlieren, Switzerland

**Withers, Stephen**

University of British Columbia, Vancouver, Canada

**Woods, Robert**

University of Georgia, Athens, USA

**Wuhrer, Manfred**

Leiden University Medical Center, The Netherlands

## Main topics

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## Organizing Committee

### Charité – Universitätsmedizin Berlin

- Dr. Volker Rosenbaum
- Prof. Dr. Rudolf Tauber
- Prof. Dr. Werner Reutter

### Freie Universität Berlin, Max-Planck-Institut für Kolloid- und Grenzflächenforschung

- Prof. Dr. Peter H. Seeberger

### Zentrum für Molekulare Diagnostik und Bioanalytik ZMDB

- Dr. Günter Peine

## Scientific Advisory Board

- Prof. Dr. Rita Gerardy-Schahn, Hannover
- Prof. Dr. Johannis P. Kamerling, Groningen, Utrecht (Netherlands)

## Dates and Deadlines

Abstract submission of posters: January 17<sup>th</sup>, 2011

## Organization

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## Website

[www.glykostrukturfabrik.de](http://www.glykostrukturfabrik.de)

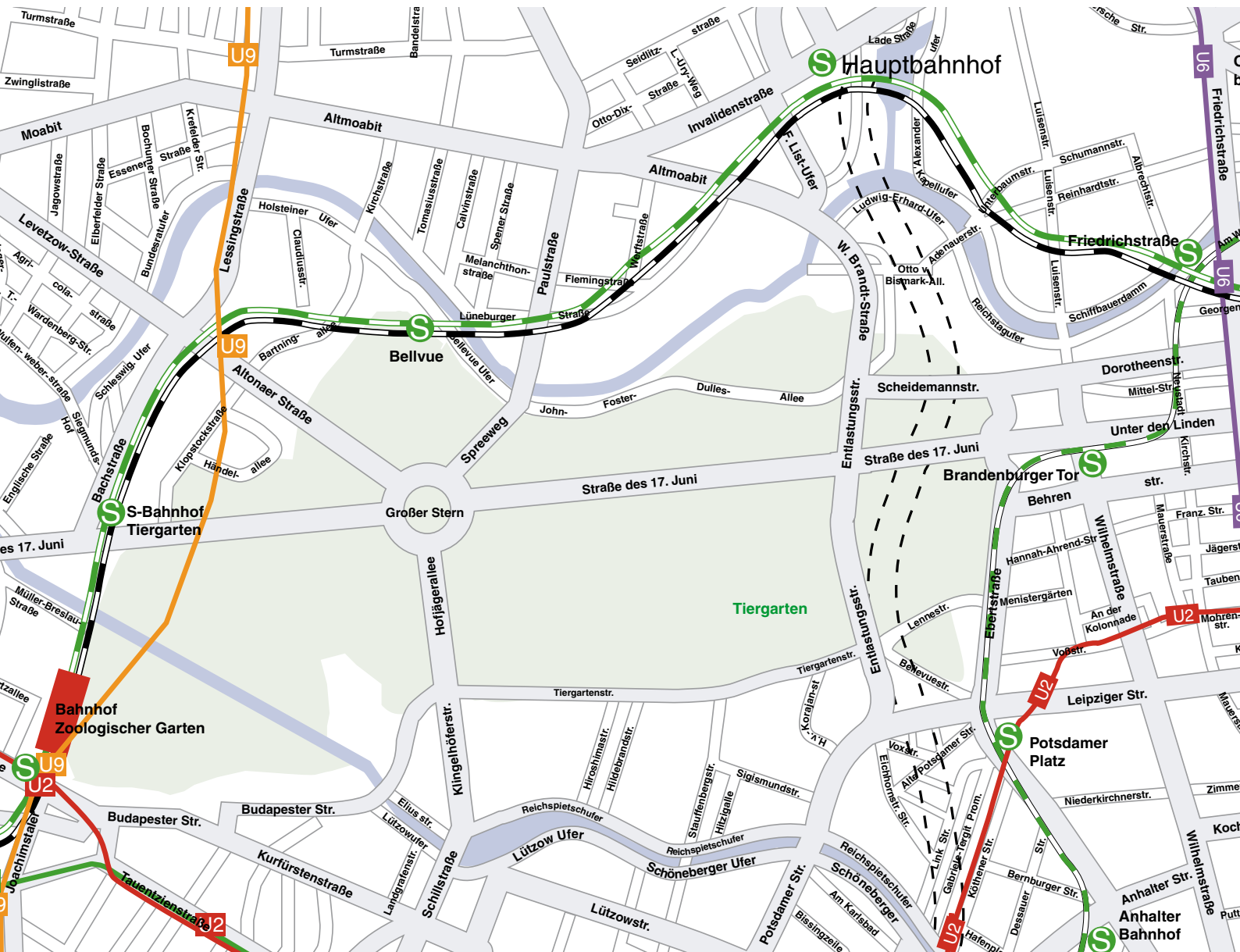
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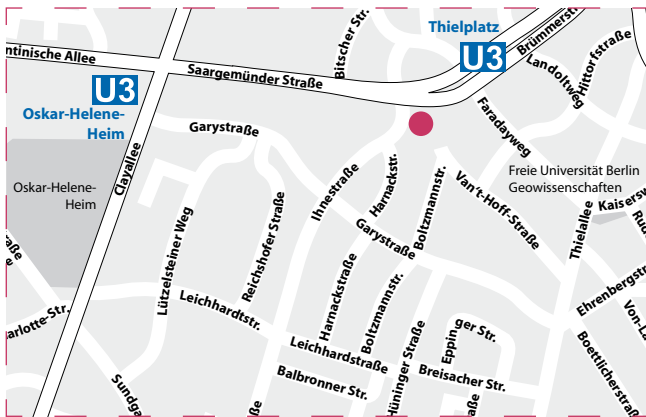
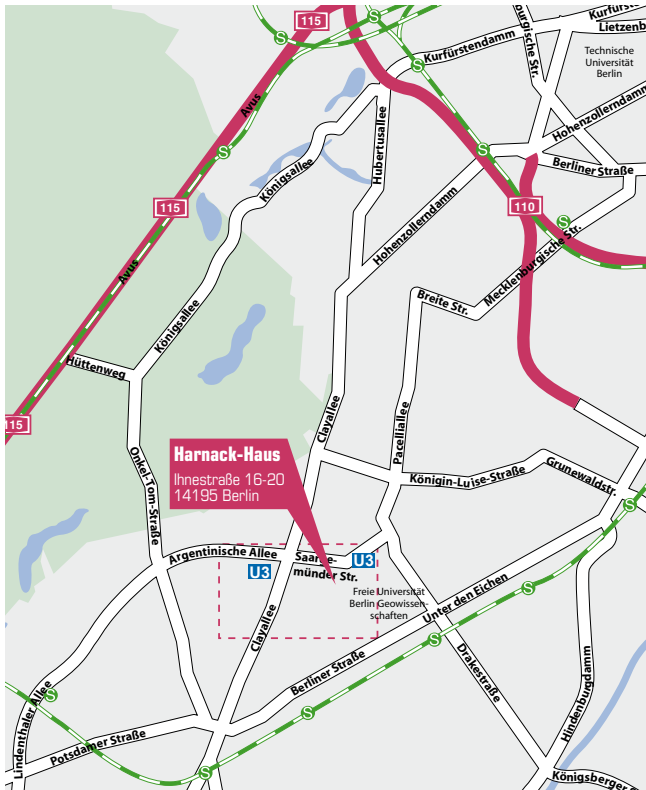
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