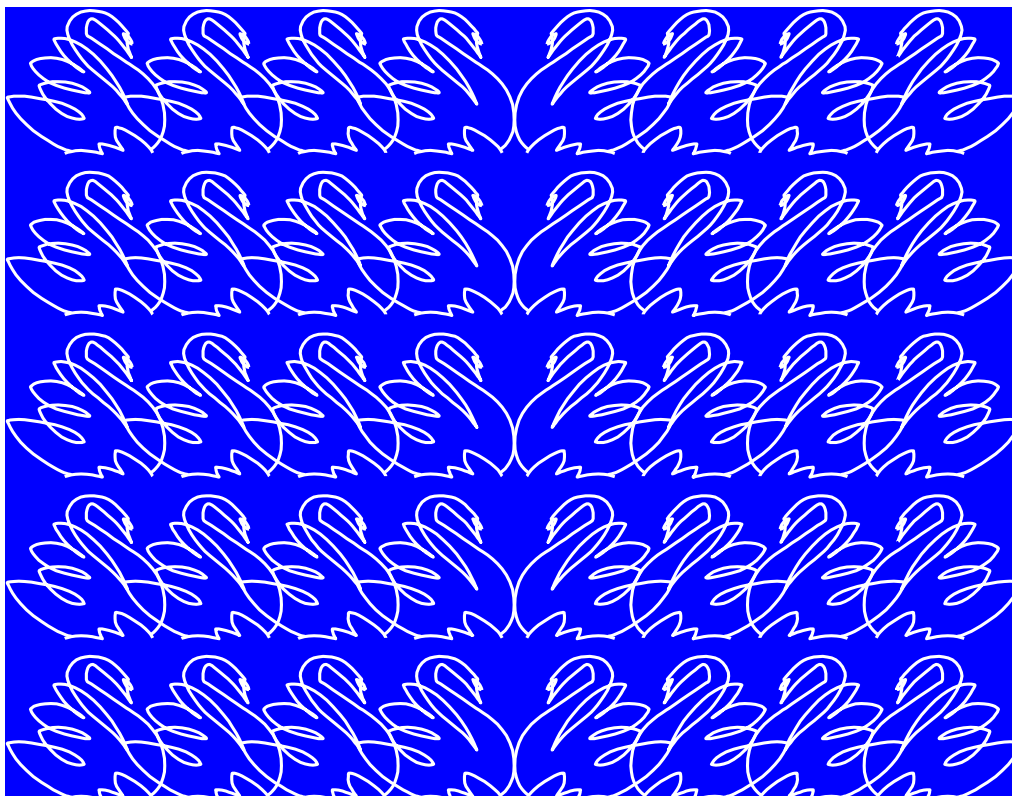




**BENZON SYMPOSIUM**  
**No. 64**  
**GLYCOTHERAPEUTICS – EMERGING ROLES OF GLYCANS**  
**IN MEDICINE**

**AUGUST 27-30, 2018**  
**COPENHAGEN, DENMARK**



**Organizing committee:**

Henrik Clausen, Hans H. Wandall, Steffen Thiel, James Paulson, Nico Callewaert, Hans  
Bräuner-Osborne and Finn Cilius Nielsen



## MONDAY, AUGUST 27, 2018

- 09:00-09:05 Welcome
- Opening Keynote Lecture**  
*Chair* **Henrik Clausen**
- 09:05-10:00 **Ajit Varki**: CD33-related siglecs in innate immunity, aging, lifespan, grandmothing and late life cognitive decline  
10:00-10:10 Discussion
- Session I** **GlcNAcylation & diseases**  
*Chair* **Robert Haltiwanger**
- 10:10-10:40 **Gerald W. Hart**: Nutrient regulation of transcription & signaling by O-GlcNAc  
10:40-10:50 Discussion
- 10:50-11:10 **Coffee Break**
- 11:10-11:40 **John A. Hanover**: Sweet disorder: O-GlcNAc in disease  
11:40-11:50 Discussion
- 11:50-12:20 **Daan van Aalten**: Molecular and biological mechanisms of XLID mutations in O-GlcNAc transferase  
12:20-12:30 Discussion
- 12:30-13:30 **LUNCH**
- Session II** **Congenital diseases of glycosylation & therapeutic options**  
*Chair* **Hudson H. Freeze**
- 13:30-14:00 **Robert S. Haltiwanger**: Peters Plus Syndrome: A congenital disorder of glycosylation  
14:00-14:10 Discussion
- 14:10-14:40 **Tadashi Suzuki**: Toward curing NGLY1-deficiency  
14:40-14:50 Discussion
- 14:50-15:00 **Francois Foulquier**: TMEM165; a new key player in Golgi glycosylation and cellular Mn<sup>2+</sup> homeostasis (*Poster number I-1*)  
15:00-15:05 Discussion
- 15:05-15:15 **Ramon Hurtado-Guerrero**: The interdomain flexible linker of the polypeptide GalNAc-transferases dictates their long-range glycosylation preferences (*Poster number I-2*)  
15:15-15:20 Discussion
- 15:20-15:50 **Coffee Break**
- 15:50-16:00 **Hideyuki Takeuchi**: O-Glycosylation modulates the stability of epidermal growth factor-like repeats and thereby regulates Notch trafficking (*Poster I-3*)  
16:00-16:05 Discussion
- 16:05-16:35 **Hudson Freeze**: Patients drive re-examination of basic glycoscience  
16:35-16:45 Discussion
- 16:45-18:15 Poster session I
- 19:30-21:30 **Reception at Café Mazzolis in Tivoli (old amusement park)**  
(walking time from hotel to Tivoli is about 15 min.)



## TUESDAY, AUGUST 28 2018

### *Session III*     **Immunology & therapeutic options I**

*Chair*     *Jamey D. Marth*

09:00-09:30     **James C. Paulson:** Exploiting inhibitory Siglecs to modulate immune responses

09:30-09:40     Discussion

09:40-10:10     **Robert Sackstein:** GPS: Navigating cell therapeutics via glycoengineering

10:10-10:20     Discussion

10:20-10:50     **Coffee Break**

10:50-11:20     **Avery Posey:** Strategies to drive CAR-T cells into solid tumors

11:20-11:30     Discussion

11:30-11:40     **Fredrik Zetterberg:** The first class of orally available mono-saccharide galectin-3 inhibitors for treatment of fibrosis (NASH) and cancer (*Poster number II-1*)

11:40-11:45     Discussion

11:45-12:45     **LUNCH**

### *Session IV*     **Immunology & therapeutic options II**

*Chair:*     *Gunnar Hansson*

12:45-13:15     **Max Crispin:** Exploiting glycosylation in vaccine design and therapeutics

13:15-13:25     Discussion

13:25-13:35     **Christian Büll:** Reprogramming sialic acid-Siglec interactions to control the immune response (*Poster number II-2*)

13:35-13:40     Discussion

13:40-13:50     **Morten Thaysen-Andersen:** Paucimannosylation: Overlooked human glycoepitopes in inflammation, infection and cancer (*Poster number II-3*)

13:50-13:55     Discussion

13:55-14:30     **Coffee Break**

14:30-14:40     **Thomas Mandel Clausen:** Targeting of CS for cancer therapy and diagnosis (*Poster number II-4*)

14:40-14:45     Discussion

14:45-14:55     **Caroline Kjærulff Mathiesen:** Genetically engineered cell factories produce glycoengineered vaccines that target antigen presenting cells and reduce antigen specific T-cell reactivity (*Poster number II-5*)

14:55-15:00     Discussion

15:00-15:30     **Dennis Burton:** Progress toward a neutralizing antibody-based HIV vaccine

15:30-15:40     Discussion

15:40-17:10     Poster Session II



## WEDNESDAY, AUGUST 29, 2018

- Session V*      ***Glycome & Microbiome***  
*Chair*          *Richard D. Cummings*
- 09:00-09:30    ***Gunnar C. Hansson***: Therapeutic opportunities addressing diseases involving mucus and mucins in the lung and intestine  
09:30-09:40    Discussion
- 09:40-10:10    ***Kelley Moremen***: Structural basis for mammalian glycoenzyme substrate specificity  
10:10-10:20    Discussion
- 10:20-10:50    **Coffee Break**
- 10:50-11:20    ***Jamey Marth***: Protein glycosylation in the origins and treatments of inflammatory diseases  
11:20-11:30    Discussion
- 11:30-11:40    ***Chengcheng Huang***: Studies on the serum sialyl oligosaccharides (*Poster III-1*)  
11:40-11:45    Discussion
- 11:45-11:55    ***Rebecca Miller***: Ion mobility mass spectrometry of heparan sulfate (*Poster III-2*)  
11:55-12:00    Discussion
- 12:00-13:00    **LUNCH**
- Session VI*      ***Engineering glycosylation in cells***  
*Chair*          *Hans H. Wandall*
- 13:00-13:30    ***Nico Callewaert***: Glycosylation customizat on of eukaryotic biopharmaceutical expression hosts: making better biopharmacauticals more cost-effectively Discussion  
13:30-13:40    Discussion
- 13:40-14:10    ***Thomas Braulke***: Mannose 6-phosphate-dependent alterations in tissue homeostasis *in vivo*  
14:10-14:20    Discussion
- 14:20-14:50    **Coffee Break**
- 14:50-15:00    ***Francis Jacob***: Glycosphingolipids are vital for reversible epithelial-to-mesenchymal transition in intermediate ovarian cancer cells (*Poster III-3*)  
15:00-15:05    Discussion
- 15:05-15:15    ***Manuela Mally***: A novel glycoengineering platform for better therapeutics (*Poster III-4*)  
15:15-15:20    Discussion
- 15:20-15:50    ***Herta Steinkellner***: *In planta* complex N-and O-glycan engineering  
15:50-16:00    Discussion
- 16:00-17:30    Poster Session III
- 19:30-23:00    **Banquet at The University of Copenhagen**  
(walk 19:20; time from hotel to University is about 3 min.)



## THURSDAY, AUGUST 30, 2018

### *Session VII Glyco-therapeutics*

*Chair Nico Callewaert*

09:00-09:30 **Göran Larson:** Glycopatterning of human Factor VIII used in replacement therapy; consideration of immunogenicity

09:30-09:40 Discussion

09:40-10:10 **Mark von Itzstein:** Structure-guided inhibitor discovery in targeting clinically-important viruses

10:10-10:20 Discussion

10:20-10:50 **Coffee Break**

10:50-11:20 **Jeffrey Esko:** Whole genome analysis of heparan sulfate assembly

11:20-11:30 Discussion

11:30-11:40 **Benjamin Bailly:** Discovery of heparan sulfate mimetic fragments as inhibitors of enterovirus 71 infection (*Poster number III-5*)

11:40-11:45 Discussion

11:45-11:55 **Jeremy Turnbull:** Next generation heparins: Targeting proteoglycan functions for therapeutic benefit (*Poster number III-6*)

11:55-12:00 Discussion

12:00-13:00 **LUNCH**

### *Session VIII Platform technologies for advancing glyco-drugs*

*Chair Steffen Thiel*

13:00-13:30 **Richard D. Cummings:** Anti-inflammatory drugs targeting selectins

13:30-13:40 Discussion

13:40-14:10 **Rita Gerardy-Schahn:** Oncolytic adenoviruses dressed to selectively infect polysialic acid positive tumors

14:10-14:20 Discussion

14:20-14:30 **Weihua Tian:** The glycosylation design space for recombinant lysosomal replacement enzymes in CHO cells (*Poster number III-7*)

14:30-14:35 Discussion

14:35-14:45 **Yoshiki Narimatsu:** A validated gRNA library for CRISPR/Cas9 targeting of the human glycosyltransferase genome (*Poster number III-8*)

14:45-14:50 Discussion

14:50-15:20 **Coffee Break**

### *Final Keynote Lecture*

*Chair: Robert Sackstein*

15:20-16:10 **Linda Hsieh-Wilson:** Glycans as novel targets for neurological disorders

16:10-16:20 Discussion

16:20-16:30 Concluding Remarks



**RECEPTION  
MONDAY, AUGUST 27, 2018  
(19:30-21:30)**

**PARTICIPANTS, INVITED SPEAKERS  
AND ACCOMPANYING PERSONS**

The reception will be held at **Café Mazzolis** located in **Tivoli**, the old amusement park.

Situated in Tivoli Gardens in the city center, the building in which Café Mazzolis is located has – at times – been Tivoli's ball room, the hippodrome and confectioner's tea room – since it was built in 1883.

The elegant architecture of the facade has been preserved while inside the restaurant is characterized by modern Scandinavian design as a counterpoint to the period exterior. In the same vein, the modern, Italian inspired cuisine can be enjoyed against the traditional background of a wonderful view of the Tivoli Lake and Promenade.

Dress code: Smart casual.



*No transportation will be provided for this event.  
A group will assemble in the lobby and walk from the hotel to  
Café Mazzolis at 19:15*



**BANQUET  
WEDNESDAY, AUGUST 29, 2018  
(19:30-23:00)**

**PARTICIPANTS, INVITED SPEAKERS  
AND ACCOMPANYING PERSONS**

The banquet will take place at **The University of Copenhagen Ceremonial Hall** located at Vor Frue Plads, 1017 Copenhagen K.

The University is situated right across from the cathedral of Copenhagen, Vor Frue (Church of our Lady). The University was established more than 500 years ago, in 1479, but the present buildings are from the 19<sup>th</sup> century. With its more than 530 years, the University of Copenhagen is one of the oldest universities in Northern Europe. Being the largest institution of education and research in Denmark, the University has gone through numerous changes through the ages.



We are proud to hold the banquet in one of the city's most beautiful rooms, the University of Copenhagen Ceremonial Hall. The building was opened in 1836, but not until 60 years later was the decoration of the rooms finished. The Ceremonial Hall is decorated with paintings showing the University's history, an example is Wilhelm Marstrand's painting from 1871 showing the University's inauguration in 1479.

Dress code: Smart (Jacket, tie not required).



*No transportation will be provided for this event.  
A group will assemble in the lobby and walk from the hotel to the University at 19:20.*

Website: [www.benzon-foundation.dk](http://www.benzon-foundation.dk)