

26th Symposium on Glycosaminoglycans

September 13th – 15th, 2018



Organizers:

Roland Krämer, Job Harenberg
University of Heidelberg, Germany

Giangiaco Torri, Annamaria Naggi
"G. Ronzoni" Institute for Chemical and Biochemical Research,
Milan, Italy

Under the patronage of:



Welcome to Villa Vigoni 2018!

As in the past twenty-five editions, the 26th Glycosaminoglycan Symposium will take place in Villa Vigoni (Lovenno, Lake Como). Eminent specialists from all over the world are invited to discuss both current and emerging topics of interest in the fields of chemistry, biochemistry, biology, pharmacology, and in the clinical applications of heparin and other glycosaminoglycans. Both basic and applied aspects will be covered and discussed, with around thirty percent of participants being associated with industrial companies. Participation in the symposium (only by invitation) is limited to a maximum of 90 participants.

The subjects of interest include biosynthesis, structural characterization and protein interactions, biological functions and clinical aspects including anti-inflammatory and anti-tumor activity. A session dedicated to pharmaceutical and regulatory aspects of heparin and heparin related drugs has also been introduced.

Keynote speakers will outline state-of-the art, research and advances in each field and present novel results and future perspectives. A sufficient time will be allotted for in-depth discussion. The informal, workshop-like character of the symposia and the pleasant surroundings of the villa traditionally stimulate after-session interactions among participants also.

Job Harenberg

Giangiaco Torri

Scientific board

Giangiaco Torri, Job Harenberg, Roland Krämer, Ram Sasisekharan, Annamaria Naggi, Marco Guerrini, Gerd Bendas, Martin Götte.

Scientific Secretary

Antonella Bisio

Thursday, September 13th 2018

14.30 - 14.40 **Welcome address, Job Harenberg and Giangiacomo Torri**

DRUGS BASED ON COMPLEX GLYCOSAMINOGLYCANS

Moderator: **Giangiacomo Torri**

14.40 - 15.00 **Giuseppe M. Andreozzi**, Catania
Sulodexide in vascular medicine.

15.00 - 15.20 **Noemi Veraldi**, Milan
Fine structural characterization of sulodexide.

15.20 - 15.40 **Jawed Fareed**, Chicago
Pharmacological rationale for the therapeutic actions of sulodexide.

15.40 - 16.00 **Ram Sasisekharan**, Boston
Comparative characterization of highly heterogeneous drugs.

16.00 - 16.20 **Discussion**

16.20 - 16.40 **Coffee and tea**

PROGRESS ON GLYCOSAMINOGLYCAN RESEARCH

Moderator: **Jin-ping Li**

16.40 - 17.00 **Vito Ferro**, Brisbane
Development of an LC-MS/MS assay for quantification of heparan sulfate in biological samples from Mucopolysaccharidosis patients.

17.00- 17.20 **Marco Maccarana**, Lund
Biosynthesis and inhibition of the biosynthesis of chondroitin/dermatan sulfate: potential pharmacological applications.

17.20 - 17.40 **Dulce Papy-Garcia**, Créteil
Intracellular 3-*O*-sulfated heparan sulfates in Alzheimer Disease-related tauopathy.

17.40- 18.00 **Discussion**

20.00 **Dinner in Villa Vigoni**

Friday, September 14th 2018

PROGRESS ON ANTICOAGULANTS AND ANTITHROMBOTICS

Moderator: **Axel Stemberger**

- 9.00 - 9.20 **Götz Nowak**, Jena, and **Mercedes Lopez**, Gießen
Dysbiosis induced chronic inflammatory gut leakage with endotoxin translocation and disturbances in the immunity and coagulation.
- 9.20 - 9.40 **Roland Krämer** and **Nora Kipper**, Heidelberg
Quantification of glycosaminoglycans in animal plasma with the Heparin Red mix-and-read assay.
- 9.40 - 10.00 **Job Harenberg**, Heidelberg
Urine as a unique matrix for determination of direct oral anticoagulants using *DOAC Dipstick*.
- 10.00 - 10.20 **Coffee and tea**
- 10.20 - 10.40 **Volker Laux**, Wuppertal
Antithrombotic activity without increased bleeding - an update on the the anti-FXIIa antibody BAY 1213790.
- 10.40 - 11.00 **Susanne Alban**, Kiel
Tailored fucoidans as non-animal GAG alternatives.
- 11.00 - 11.20 **Discussion**

GLYCOSAMINOGLYCANS: PHARMACEUTICAL AND REGULATORY ASPECTS

Moderator: **Carlo Pini**

- 11.20 - 11.40 **Jeanine Walenga**, Chicago
An update on the reintroduction of bovine heparin, current perspectives.
- 11.40 - 12.00 **Lorenzo Montrasio**, Rome
Translation of laboratory discoveries into new therapeutics.
- 12.00 - 12.20 **Discussion**
- 12.30 - 13.30 **Lunch in Villa Vigoni**

Friday, September 14th 2018

HEPARIN AND OTHER GLYCOSAMINOGLYANS IN MALIGNANCY

Moderator: **John Gallagher**

- 14.30 - 14.50 **Ralph Sanderson**, Birmingham
Novel mechanism of heparanase mediated chemoresistance in myeloma.
- 14.50 - 15.10 **Uri Barash**, Haifa
The heparanase-CD24-L1CAM axis in glioma tumorigenesis.
- 15.10 - 15.30 **Gerd Bendas**, Bonn
Anticoagulation in oncology - Pros and Cons of LMWH from a detailed insight into platelet / tumor cell interactions.
- 15.30 - 15.50 **Discussion**
- 15.50 - 16.10 **Coffee and tea**

HEPARIN AND OTHER GLYCOSAMINOGLYANS IN MALIGNANCY

Moderator: **Carl Kirchmaier**

- 16.10 - 16.30 **Lubor Borsig**, Zurich
Glycosaminoglycans-chemokine axis during metastasis.
- 16.30 - 16.50 **Martin Schlesinger**, Bonn
Insight into tumor cell platelet communication.
- 16.50 - 17.10 **Martin Götte**, Münster
Heparan sulfate proteoglycans as modulators of therapeutic resistance in cancer.
- 17.10 - 17.30 **Discussion**
- 20.00 **Dinner in Villa Vigoni**

Saturday, September 15th 2018

GLYCOSAMINOGLYCAN INTERACTIONS

Moderator: **Annamaria Naggi**

- 9.00 - 9.20 **Toshihiko Toida**, Chiba
Impacts of orally administered glycosaminoglycans on immune system.
- 9.20 - 9.40 **Ed Yates**, Liverpool
Protective effects of heparin in flavivirus infection.
- 9.40 - 10.00 **Kay Grobe**, Münster
Direct yet unspecific heparan sulfate interactions regulate Hedgehog morphogen function: from basics to applications.
- 10.00 - 10.20 **Discussion**
- 10.20 - 10.40 **Coffee and tea**

GLYCOSAMINOGLYCAN INTERACTIONS

Moderator: **Barbara Mulloy**

- 10.40 - 11.00 **Marco Guerrini**, Milan
Interaction and conformational studies on uncommon antithrombin-binding oligosaccharides.
- 11.00 - 11.20 **Tim Rudd**, London
Comparison of basic amino acid sequences in heparin, RNA and DNA binding proteins.
- 11.20 - 11.40 **John Hogwood**, London
Neutralisation of histone activity by heparin.
- 11.40 - 12.00 **Discussion**
- 12.00 - 12.10 **Closing remarks: G. Torri and J. Harenberg**
- 12.30 - 13.30 **Lunch in Villa Vigoni**

Location of the Symposium

"Villa Vigoni e.V."
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