27th Symposium on Glycosaminoglycans

September 19th – 21st, 2019

PRELIMINARY PROGRAM

Organizers:
Roland Krämer, Job Harenberg
University of Heidelberg, Germany

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

Under the patronage of:
Welcome to Villa Vigoni 2019!

As in the past twenty-six editions, the 27th Glycosaminoglycan Symposium will take place in Villa Vigoni (Loveno, 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 75 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                            Giangiacomo Torri

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

Scientific Secretary
Antonella Bisio
## Thursday, September 19th 2019

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<td>15.00 - 15.20</td>
<td><strong>Denis Barritault</strong>, Créteil&lt;br&gt;How the Regenerating Agents (RGTA), mimetics of heparan sulfate, open a new branch in regenerative medicine: a translational medicine saga from bench to patient.</td>
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<td><strong>John Whitelock</strong>, Sydney&lt;br&gt;Recent development on bioengineered heparin</td>
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<td>15.40 - 16.00</td>
<td><strong>Jin-ping Li</strong>, Uppsala&lt;br&gt;The importance of Iduronic acid in the biological activities of heparan sulfate.</td>
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<td>16.00 - 16.20</td>
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<td>16.40 - 17.00</td>
<td><strong>C.S. Venkatesan</strong>, Hyderabad&lt;br&gt;The synthesis and angiostatic activities of conjugates of curcumin with glycosaminoglycans.</td>
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<td>17.00 - 17.20</td>
<td><strong>Giangiacomo Torri</strong>, Milan&lt;br&gt;Orthogonal approach for studying different structural requirements for high affinity heparin-antithrombin interaction.</td>
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<td><strong>Georg Breier</strong>, Dresden&lt;br&gt;A novel role for endothelial cadherins in cancer.</td>
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PROGRESS ON ANTICOAGULANTS AND ANTITHROMBOTICS

Moderator: Axel Stemberger

9.00 - 9.20 Vito Ferro, Brisbane
Heparin mimetics via RAFT polymerization: novel anticoagulants for biomedical applications

9.20 - 9.40 Job Harenberg, Heidelberg
New rapid, sensitive and specific methods to test for direct oral anticoagulants.

9.40 - 10.00 Volker Laux, Wuppertal
DIC in sepsis can be attenuated by dual inhibitors of coagulation factors Xa and IIa.

10.00 - 10.20 Susanne Alban, Kiel
Modulation of contact system by sulfated glycans.

10.20 - 10.40 Discussion

10.40 - 11.00 Coffee and tea

GLYCOSAMINOGLYCANs: PHARMACEUTICAL AND REGULATORY ASPECTS

Moderator: Annamaria Naggi

11.00 - 11.20 Jawed Fareed, Chicago
The re-introduction of bovine heparin! What are the facts?

11.20 - 11.40 Elaine Gray, London
A Potency Standard for Bovine Heparin?

11.40 - 12.00 Carlo Pini, Rome
Role of Official Medicines Control Laboratories (OMCL) in assessing quality of biologicals.

12.00 – 12.20 Discussion

12.30 - 13.30 Lunch in Villa Vigoni
HEPARIN AND OTHER GLYCOSAMINOGLYANS IN MALIGNANCY

Moderator: Carl Kirchmaier

14.30 - 14.50 Renato V. Iozzo, Philadelphia
Autophagic degradation of HAS2: a novel mechanism to regulate angiogenesis.

14.50 - 15.10 Israel Vlodavsky, Haifa
Opposing functions of heparanase-1 and heparanase-2 in cancer progression.

15.10 - 15.30 Gerd Bendas, Bonn
Heparin - A novel perspective and role in immune oncological approaches?

15.30 - 15.50 Discussion

15.50 - 16.10 Coffee and tea

HEPARIN AND OTHER GLYCOSAMINOGLYANS IN MALIGNANCY

Moderator: Götz Nowak

16.10 - 16.30 Ariane De Agostini, Geneve
Sulfated glycans modulate HS turnover and biological activities in endometrial carcinoma and in Sanfilippo syndrome.

16.30 - 16.50 Martin Götte, Münster
The heparan sulfate proteoglycan syndecan-1 is a novel regulator of radiation sensitivity in breast cancer.

16.50 - 17.10 Discussion

20.00 Dinner in Villa Vigoni
GLYCOSAMINOGLYCAN INTERACTIONS

Moderator: Giangiacomo Torri

9.00 - 9.20  Marion Kusche-Gullberg, Bergen
Downregulation of Ext1 reduces FGF-beta 1 expression levels in fibroblasts.

9.20 - 9.40  Chiara Bongio, Milan
Iron nanoparticle coating of heparin derivatives.

9.40 - 10.00  Dominique Manikowski, Münster
Electrostatic heparan sulfate interactions constrain the Hedgehog morphogen gradient during development.

10.00 - 10.20  Discussion

10.20 - 10.40  Coffee and tea

NEW ANALYTICAL APPROACHES

Moderator: Marco Guerrini

10.40 - 11.00  David Keire, St. Louis
Reduction of bovine spongiform encephalopathy agent infectivity by heparin processing.

11.00 - 11.20  Elena Urso, Milan
TBD

11.20 - 11.40  Barbara Mulloy, London
Molecular weights of LMW heparin products: how have we measured them in the past and how will we measure them in the future?

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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