

25th Symposium on Glycosaminoglycans

From present to future. The vision of Benito Casu

September 14th – 16th, 2017



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 2017!

This year, the 25th edition of Glycosaminoglycan Symposium, taking place in Villa Vigoni (Loveno, Lake Como), has the difficult task to combine fortunate and unfortunate news: to celebrate a quarter of a century of the Glycosaminoglycan Symposia and to remember Professor Benito Casu who organised for over 20 times this symposium together with his German partner Professor Job Harenberg.

Eminent specialists from all over the world are invited to contribute to discussion of topics of actual or emerging interest in the field of chemistry, biochemistry, biology, pharmacology, and clinical applications of heparin and other glycosaminoglycans. Both basic and applied aspects will be covered and discussed, with about twenty 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 selected for discussions include heparin synthesis, structural characterization and protein interactions, biological functions, clinical aspects including anti-inflammatory and anti-tumor activity. Moreover, being the 25th anniversary of the symposium and following the death of Benito Casu, an opening special session and some “Casu Lectures” dedicated to these occurrences have been scheduled.

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

Job Harenberg

Giangiaco Torri

Scientific board

Giangiaco Torri, Job Harenberg, Roland Krämer, Ram Sasisekharan, Annamaria Naggi, Marco Guerrini.

Scientific Secretary

Antonella Bisio

Thursday, September 14th 2017

SPECIAL SESSION FOR THE 25TH ANNIVERSARY OF THE SYMPOSIUM

Moderators: **J. Harenberg, G. Torri**

- 14.20 - 14.30 **I. Amodeo**, Loven di Menaggio
Italian-German Vigoni Association and 27 years of GAGs Symposia
- 14.30 - 14.50 **J. Harenberg**, Mannheim
How did the Glycosaminoglycan Symposia start? A review and the contribution of my friend Benito Casu
- 14.50 - 15.10 **G. Torri**, Milan
An overview of the scientific contribution of Benito Casu's school to the GAGs Symposia
- 15.10 - 15.20 **M.B. Donati**, Isernia
The contribution of Mario Negri Institute to GAGs Symposia
- 15.20 - 15.30 **U. Lindahl**, Uppsala
Benito - the mastermind behind EU grant proposals
- 15.30 - 15.40 **M. Petitou**, Milan
Benito Casu: from a scientific collaboration to a friendship
- 15.40 - 15.50 **R. Sasisekharan**, Boston
How will be the future of glycosaminoglycans?
- 15.50 - 16.00 **N. Veraldi**, Milan
Future perspectives of GAG research: the contribution of young researchers
- 16.00 - 16.10 **J. Fareed**, Chicago
25 Years of the GAGs Symposia. Current and future scientific and clinical impact
- 16.10 - 16.40 **Coffee and tea**

PROGRESS ON GLYCOSAMINOGLYCAN RESEARCH

CASU LECTURE

Moderator: **R. Sasisekharan**

- 16.40 - 17.10 **R. Sanderson**, Birmingham
Heparan sulfate and heparanase: cargo on the surface of exosomes that regulates tumor and host cells

Moderator: **S. Alban**

- 17.30 - 17.40 **J. Whitelock**, Sidney
Bioengineered heparin production
- 17.30 - 17.40 **Discussion**
- 20.00 **Dinner in Villa Vigoni**

Friday, September 15th 2017

PROGRESS ON ANTICOAGULANT AND ANTITHROMBOTICS

CASU LECTURE

Moderator: **J. Gallagher**

9.00 - 9.30 **J. Fareed**, Chicago
Biochemical and pharmacological profiling of heparins derived from non porcine tissues

Moderator: **L. Montrasio**

9.30 - 9.50 **D. Keire**, St. Louis
Physicochemical characterization of heparin protein complexes: implications for heparin induced thrombocytopenia

9.50 - 10.10 **J. Walenga**, Chicago
Biochemical and pharmacological rationale for the therapeutic effects of Sulodexide and Danaparoid

10.10 - 10.30 **M. Guerrini**, Milan
Characterization of Danaparoid by orthogonal analytical approach

10.30 - 10.50 **Discussion**

10.50 - 11.10 **Coffee and tea**

PROGRESS ON ANTICOAGULANT AND ANTITHROMBOTICS

Moderator: **A. Stemberger**

11.10 - 11.30 **G. Nowak, M. Lopez**, Jena
Heparin allergy in gut born disease: diagnostic and therapeutic considerations

11.30- 11.50 **V. Laux**, Wuppertal
Coagulation factor XI – Validation of a novel innovative antithrombotic target

11.50-12.10 **R. Krämer**, Heidelberg
Detection of sulfated polysaccharides with Heparin Red: extending the range of applications

12.10-12.30 **Discussion**

13.00-14.00 **Lunch in Villa Vigoni**

Friday, September 15th 2017

BIOLOGICAL ROLES OF HEPARIN AND HEPARANSULFATE

Moderator: **J. Fareed**

- 14.30-14.50 **J. Esko**, S. Diego
Heparan sulfate, HME and wound repair
- 14.50-15.10 **J-p. Li**, Uppsala
Functions of heparanase in platelet production and activity
- 15.10-15.30 **X. Fernandez-Busquets**, Barcelona
Glycosaminoglycans as triggers of Metazoan evolution? A case study in marine sponges
- 15.30-15.50 **Discussion**
- 15.50-16.10 **Coffee and tea**

HEPARIN AND OTHER GLYCOSAMINOGLYANS IN MALIGNANCY

CASU LECTURE

Moderator: **A. Naggi**

- 16.10-16.40 **I. Vlodaysky**, Haifa
Heparanase-2 attenuates tumor vascularity, metastasis and growth

Moderator: **K. Kirchmaier**

- 16.40-17.00 **G. Bendas**, Bonn
Insight into the proangiogenic signaling of heparanase in melanoma cells - Does it follow the thrombin receptor route?
- 17.00-17.20 **M. Götte**, Münster
Syndecan-1 and heparanase regulate the cancer stem cell phenotype
- 17.20-17.40 **J. Turnbull**, Liverpool
HS regulation of cancer stem cell phenotype and chemosensitivity
- 17.40-18.00 **Discussion**
- 20.00 **Dinner in Villa Vigoni**

Saturday, September 16th 2017

GLYCOSAMINOGLYCANS INTERACTIONS

CASU LECTURE

Moderator: **R. Krämer**

9.00-9.30 **H.C. Hemker**, Maastricht
The biological correlate of antithrombotic action in heparins

Moderator: **L. Borsig**

9.30-9.50 **B. Mulloy**, London
Development of glycosaminoglycan micro-array

9.50-10.10 **T. Rudd**, London
Analysis of conserved basic aminoacid containing sequences in heparin binding proteins

10.10-10.30 **J. van den Born**, Gröningen
High sodium diet converts renal heparan sulfate into pro-inflammatory mediators in rats

10.30-10.40 **Discussion**

10.40-11.00 **Coffee and tea**

CHARACTERIZATION OF GLYCOSAMINOGLYCANS

Moderator: **E. Gray**

11.00-11.20 **J. Hogwood**, London
Neutralising anticoagulant activities of heparin and heparin mimetics

11.20-11.40 **G. Risi**, Milan
Protein-heparin interactions

11.40-12.00 **M. Skidmore**, Keele
New methods/tools for studying GAG structure:function relationships

12.00-12.10 **Discussion**

12.20-12.30 **Closing remarks: G Torri and J. Harenberg**

12.30-13.30 **Lunch in Villa Vigoni**

Location of the Symposium

"Villa Vigoni e.V."
Via Giulio Vigoni 1
Loveno di Menaggio
I-22017 Menaggio (Como)

Tel.: +39-0344/361232
Fax: +39-0344/361247
E-mail: reception@villavigoni.eu
Internet: www.villavigoni.eu

Organisers

Dr. G. Torri & Dr. A Naggi
Istituto di Ricerche Chimiche
e Biochimiche "G. Ronzoni"

Via G. Colombo, 81
I-20133 Milano
Italy
Tel: +39/02-70641624
Fax: +39/02-70641634

Prof. Dr. J. Harenberg
Clinical Pharmacology
Medical Faculty Mannheim
University of Heidelberg
Maybachstrasse 14
D-68169 Mannheim
Germany
Tel: +49/621-3839623
Fax: +49/621-3839622

Prof. R. Krämer
Inst of Inorganic Chemistry
Ruprecht-Karls
University of Heidelberg
Im Neuenheimer Feld 270
69120 Heidelberg
Germany
Tel: +49 (0)6221-548438
Fax: +49 (0)6221-548599

E-mail: torri@ronzoni.it
naggi@ronzoni.it
Internet: www.ronzoni.it

E-mail: job.harenberg@medma.uni-heidelberg.de
E-mail: harenberg-j@t-online.de
E-mail: Roland.Kraemer@urz.uni-heidelberg.de

Scientific Secretary

Dr. Antonella Bisio
Istituto di Ricerche Chimiche e Biochimiche "G. Ronzoni"
Via G. Colombo, 81
I-20133 Milano
Italy

Tel: +39/02-70641630
Fax: +39/02-70641634
E-mail: bisio@ronzoni.it

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