



33rd Symposium on Glycosaminoglycans

September 16th – 18th, 2026



Organizers:

Marco Guerrini and Antonella Bisio

Istituto di Ricerche Chimiche e Biochimiche "G. Ronzoni", Milan
Italy

Gerd Bendas and Martin Götte

University of Bonn University of Münster
Germany

Welcome to Villa Vigoni 2026!

The tradition of these symposia continues at the esteemed and pleasant setting of Villa Vigoni. In keeping with past editions, leading experts from around the globe are invited to explore both established and emerging topics in chemistry, biochemistry, biology, pharmacology, and the clinical use of heparin and other glycosaminoglycans. Special emphasis is placed on sessions addressing the role of glycosaminoglycans in cancer, the development of heparanase inhibitors, and recent progress in analytical methods. Topics span biosynthesis, structural characterization, protein interactions, biological functions, as well as pharmaceutical and clinical applications, including anti-inflammatory and antitumor effects. As in previous years, a poster session dedicated to early-career researchers is also included.

The symposium will adopt a hybrid format, enabling both in-person and virtual attendance. Participation, however, remains by invitation only, in line with tradition. Ample time will be dedicated to thorough discussion. As in previous editions, the informal, workshop-style atmosphere encourages meaningful interactions among participants beyond the formal sessions, continuing a tradition established over the past 32 editions.

Marco, Antonella, Gerd and Martin

Honorary Member

Job Harenberg

Scientific Board

Annamaria Naggi, Marco Guerrini, Antonella Bisio, Roland Krämer, Gerd Bendas, Martin Götte, Susanne Alban, Kay Grobe, Jawed Fareed, Ram Sasisekharan.

Scientific Secretary

Antonella Bisio

Wednesday, September 16th 2026

13.00 – 14.30 **Lunch**

15.00 – 15.10 **Welcome address: Martin Götte**

PERSPECTIVES IN GLYCOSAMINOGLYCAN RESEARCH

Moderator: **Jerry Turnbull**

- 15.10 – 15.30 **Sylvie Ricard-Blum**, Villeurbanne
The Glycosaminoglycan Interaction Network: State of the Art and Perspectives
- 15.30 – 15.50 **Nikos Karamanos**, Patras
Decoding the ECM Dynamics in Tumor Microenvironment Using 3D Cell Models and Bioscaffolds
- 15.50 – 16.10 **Francesca Selmin**, Milan
Glycosaminoglycans in Human Subcutaneous Tissue: Implications for Drug Administration
- 16.10 – 16.30 **Discussion**
- 16.30 – 16.50 **Coffee and tea**

GLYCOSAMINOGLYCANS IN HEALTH AND HUMAN DISEASE

Moderator: **Mark Skidmore**

- 16.50 – 17.10 **Ana Magalhaes**, Porto
Decoding HS/CS Signatures in Gastric Cancer: From Clinical Profiling to Mechanism
- 17.10 – 17.30 **Marco Maccarana**, Uppsala
Substrate Reduction Therapy in MPS-I
- 17.30 – 17.50 **Taran Kandola**, London
Marine-derived Carbohydrates: a New Wave in Sustainable Solutions for Global Anticoagulant Supply
- 17.50 – 18.10 **Discussion**
- 19.00 **Cocktail and Dinner**

HYALURONIC ACID: BIOLOGY AND APPLICATIONS

Moderator: **Alberto Passi**

- 9.00 – 9.20 **Davide Vigetti**, Varese
Regulation of Hyaluronan Synthesis in Breast Cancer
- 9.20 – 9.40 **Andrea Maria Giori**, Lodi
New Therapeutic Indications for Injectable Hyaluronic Acid and
Regulatory Challenges
- 9.40 – 10.00 **Luca Stucchi**, Udine
A New Approach in Hyaluronan Modification: the HYALUROMIMETIC®
Technology
- 10.00 – 10.20 **Philipp König**, Bonn
Novel Hyaluronic Acid Derivatives for 3D Modeling of the Ovarian
Cancer Microenvironment: Linking Drug Response to Gene Expression
Changes
- 10.20 – 10.40 **Discussion**
- 10.40 – 11.00 **Coffee and tea**

GLYCOSAMINOGLYCAN IN HEALTH AND HUMAN DISEASE

Moderator: **John Gallagher**

- 11.00 – 11.20 **Jessica Onyeisi**, Münster
Heparan Sulfate Proteoglycan Dynamics in Breast Cancer: Syndecan-4
and Inflammatory Signaling
- 11.20 – 11.40 **Luisa Bracci**, Siena
An Anti Heparan Sulfate Branched Peptide for Interfering with HSPG
Functions in Cancer
- 11.40 – 12.00 **John Hogwood**, South Mimms
Towards a Replacement for the WHO International Standard for Low
Molecular Weight Heparin Molecular Weight Calibration
- 12.00 – 12.20 **Discussion**
- 13.00 – 14.00 **Lunch**

HEPARANASE AND ITS INHIBITORS

Moderator: **Jin-ping Li**

- 14.20 – 14.40 **Hien Nguyen**, Detroit
Development of Sulfated and Hydrophobic Aminoglycans to Target Heparanase-Driven Diabetes Associated with Pancreatic Cancer
- 14.40 – 15.00 **Marco Mandalari**, Milan
A Structural and Dynamic Blueprint for the Interaction between Heparan Sulfate Oligosaccharides and Heparanase
- 15.00 – 15.20 **Stephanie Baud**, Reims
In Silico Study of the Interaction between Lumican Derived Peptides and the Heparanase Protein: what do Molecular Docking and Molecular Dynamics Simulations Tell Us?
- 15.20 – 15.50 **Discussion**

15.50 – 17.10 **POSTER SESSION**
with coffee and tea

HEPARINOIDS: PHARMACOLOGICAL AND REGULATORY ASPECTS

Moderator: **Annamaria Naggi**

- 17.10 – 17.30 **Jawed Fareed** and **Debra Hoppensteadt**, Chicago
An Update on Biochemical and Pharmacological Profile of Various Version of Sulodexide
- 17.30 – 17.50 **Susanne Alban**, Kiel
Regulatory Issues of Sulfated Polysaccharides - An Update
- 17.50 – 18.10 **Bulent Kantarcioglu**, Chicago
Current Developments in Anticoagulant Therapy
- 18.10 – 18.30 **Discussion**
- 19.30 **Dinner**

GLYCOSAMINOGLYCAN AND PROTEIN INTERACTIONS

Moderator: **Gerd Bendas**

- 9.00 – 9.20 **Kay Grobe**, Münster
Direct Visualization and Quantification of Heparan Sulfate
Modification Patterns in Living Tissues
- 9.20 – 9.40 **Sandra Rother**, Homburg
From Glycosaminoglycans to Mimetics: Fine-Tuning Signaling and
Regeneration
- 9.40 – 10.00 **Christian Gorzelanny**, Hamburg
Distinct Heparan Sulfate Binding Sites Control the Biological Activity of
Chitinase-3-Like Protein 1
- 10:00 – 10.20 **Discussion**
- 10:20 – 10:40 **Coffee and tea**

METHODOLOGICAL ASPECTS

Moderator: **Ed Yates**

- 10.40 – 11.00 **Lorna Milne**, Nottingham
The Development of ToF-SIMS for Glycosaminoglycan Analysis: from
Heparin Screening to in-Situ Spatial Mapping
- 11.00 – 11.20 **Gavin Miller**, Manchester
Chemical Synthesis and Automated Assembly of Glycosaminoglycans
- 11.20 – 11.40 **Sergey Samsonov**, Gdansk
Computational Approaches to Understand the Sulfation Code of
Glycosaminoglycans
- 11.40 – 12.00 **General discussion**
- 12:00 – 12:10 **Closing remarks: Marco Guerrini**
- 12.30 – 13.30 **Lunch**

POSTERS

- **Claudio Lutti**, Milan
Click-Conjugated LMW Glycosaminoglycan-Cholesterol Constructs for the Microfluidic Design of Targeted Lipid Nanoparticles
- **Marie Schulz-Fincke**, Bonn
Epigenetic Remodeling of the Glycocalyx: DNMT and HDAC Inhibition Modulates Syndecan-1-, Heparanase-, Tissue Factor-Axes in Breast Cancer into an Aggressive Phenotype
- **Marco Hamacher**, Bonn
Glypicans in Cancer Resistance. Following the Clues from RNA to Function
- **Daniel Orlov**, Münster
Opposing Effects of Heparanase-2 and Low Molecular Weight Heparins on Breast Cancer Cell Growth
- **Alena Teigeler**, Kiel
Distinct Complement Modulatory Profiles of Structurally Different Sulfated Polysaccharides
- **Shiva Mohajerani**, Kiel
Improving the Bioactive Properties of Fucoidan Derived from *Saccharina latissima* from the Kiel Fjord through Degradation and IEX Purification
- **Rawan Bassal**, Haifa
Identification and Characterization of the Heparanase 2 (Hpa2) Heparin-Binding Domain and Its Significance in Cervical and Breast Carcinomas
- **Jurij Froese**, Münster
Visualization of Sulfation Epitopes on HSPGs in *Drosophila* Wing Discs Using Single-Chain Variable Fragments (scFvs)

Location of the Symposium

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Acknowledgments



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