



GlycosAminoGlycans: What remains to be solved?

Hybrid Symposium

Faculty of Medicine, University of Crete, Heraklion, Greece
& Zoom Platform

Date: September 27-29th, 2021

Aim of the meeting: The Symposium will be organized in a hybrid form with speakers participating either through physical presence or online at the Faculty of Medicine, University of Crete, Heraklion, Greece, from 27-29th, September 2021. Lectures and discussions will focus both on the field of GAGs' structure /function but also on the presentations of newly developed methods to be applied to the field (examples are automated carbohydrate synthesis, synchrotron, and neutron available as European Large Scale Facilities, NMR, Data Mining, Bioinformatics, Computational Modelling,...).

One of the intentions of the Symposium is to gather information from our community at large to establish a roadmap for European Research on the field of GlycosAminoGlycans.

Scientific Program

ENABLING METHODOLOGIES

MONDAY

9h30-9h45 : Dragana Nikitovic : Introduction

9h45-10h15 Sabine Flitsch ([The Manchester Institute of Biotechnology, UK](#)) Fragment-based approaches for GlycosAminoGlycan sequencing using ion mobility mass spectrometry.

10h15-10h45 Peter Crowley ([School of Chemistry, NUI, Galway, IE](#)) *Programmable Assembly of RalstoniaSolanacearumLectin (RSL)*

10h45 –11h15 Anne Imberty ([CERMAV-CNRS, University Grenoble Alpes, Grenoble, FR](#)) *Neutrons for structural glycobiology*

11h15-11h30 Coffee Break

11h30 – 12h00 Olga Makshakova ([Kazan Institute Biochemistry & Biophysics, Kazan, RU](#))
GlycosylTransferase-Membrane Interactions as seen from Coarse-Grained Simulations.

12h00 – 12h30 Elisa Fadda ([Department Chemistry & Hamilton Institute, Maynooth University, IE](#))
Fine-tuning the Spike: Role of the nature and topology of the glycanshield in the structure and dynamics of SARS-CoV-2 S

12h30 – 13h00 Jesus Angulo, ([Dept Quimica Organica, Universidad Sevilla, ES](#)) *Novel Multifrequency Saturation Transfer Difference (STD) NMR Approaches for Protein-Carbohydrate Interactions*

13h00 – 14h00 Lunch

BIOLOGY : GLYCOSAMINOGLYCAN SYNTHESIS AND INTERACTIONS-ROLES IN HEALTH AND DISEASE

14h00-14h30 Sylvie Ricard Blum ([Institute of Molecular and Supramolecular Chemistry and Biochemistry University Claude Bernard Lyon, Lyon, FR](#)) *The glycosaminoglycan interactome*

14h30 – 15h00 Romain Vives ([Institut Biologie Structurale, Grenoble, FR](#)) *The sweetside of extracellular sulfatase HSulf-2*

15h00 – 15h30 Bernard Priem ([CERMAV-CNRS, University Grenoble Alpes, Grenoble, FR](#))
Misincorporation of Galactose by Chondroitin Synthase of Escherichia coli K4

15h30 – 16h00 Break

16h00 – 16h20 Malgorzat Sulewska ([Hannover Medical School, DE](#))

TUESDAY

CHEMISTRY (GLYCOSAMINOGLYCAN STRUCTURE AND PROTEIN INTERACTIONS-ADVANCES AND CHALLENGES)

9h30 – 10h00 Geert-Jan Boons ([Department of Chemistry, Utrecht University, NL](#)) *3-O-Sulfation of Heparan Sulfate Modulates Protein Binding and Lyase Degradation*

10h00-10h30 Isabelle Compagnon ([Institut Louis Lumière, CNRS, Université Lyon 1, FR](#)) *Advances in GAG sequencing*

10h30-11h00 Jose Luis de Paz Carrera ([Instituto de Investigaciones Químicas-CSIC & Universidad Sevilla, ES](#)) *Synthesis of glycosaminoglycan oligosaccharides and mimetics to study carbohydrate-protein interactions*

11h00 – 11h30 Coffee Break

11h30 – 12h00 Pedro Nieto ([Instituto de Investigaciones Químicas-CSIC & Universidad Sevilla, ES](#))
Analysis of the interactions between Midkine and Chondroitin Sulfate and mimetics by NMR and Modelling.

12h30- 13h00 Milos Hricovi (Chemistry Department, Slovak Academy of Science, SK) *High resolution NMR and theoretical insights into the structure of glycosaminoglycans*

13h00-14h00 : Lunch

BIOLOGY: HEPARAN SULFATE PROTEOGLYCANS-KEY PLAYERS IN CARCINOGENESIS

14h00-14h30 Ana Magalhes (Instituto de Investigação e Inovação em Saúde, Universidade do Porto, PT) *Novel insights on Heparan Sulfate ProteoGlycans biosynthetic pathways and their functional relevance on cancer.*

14h30-15h00 Martin Gotte (Department of Gynecology and Obstetrics, University of Munster DE) *Heparan Sulfate proteoglycans as novel regulators of cancer stem cell function.*

BIOLOGY : HYALURONAN AND ITS' RECEPTORS-NOVEL ROLES IN SOLID TUMORS

15h00-15h30 Dragana Nikitovic (Medical School, University of Crete, GR) *Receptor for hyaluronan mediated motility (RHAMM)/ hyaluronan regulate fibrosarcoma cell functions*

15h30-16h00 Spyros Skandalis (Department of Chemistry, University of Patras, GR) *GR Targeting Hyaluronan network in breast cancer*

16h00-16h30 Break

BIOLOGY: CHONDROITIN SULFATE PROTEOGLYCANS IN CANCER PATHOGENESIS

16h30 – 16h50 Eirini Maria Giatagana (Medical School, University of Crete, GR) *Biglycan and type I insulin-like receptor (IGF-IR) signaling pathway interact to regulate MG63 osteosarcoma cells growth.*

WEDNESDAY

DATABASES AND BIOINFORMATIC TOOLS FOR GLYCOBIOLOGY

9h30-10h00 Giulia Paiardi (Department of Molecular and Translational Medicine, School of Medicine, University of Brescia, Brescia, IT). *A Bittersweet Computational Journey among Glycosaminoglycans*

10h00-10h30 Sergey Samsonov (Department of Theoretical Chemistry, Faculty of Chemistry, University of Gdansk, PL) *Challenges and advances in molecular docking of glycosaminoglycans*

10h30-11h00 Serge Perez (CERMAV-CNRS, University Grenoble Alpes, Grenoble, FR) *Structural Glycoinformatics tools for GAGs.*

11h00 Concluding Remarks

Scientific and Organizing Committee: Dragana Nikitovic & Serge Perez

Topical organizing committee: Dragana Nikitovic, George Tzanakakis, Aikaterini Berdiaki, Ioanna Spyridaki, Eirini-Maria Giatagana, Lydia-Nefeli Thrapsanioti

Registrations

Attendance to the Symposium either physically or online, is subjected to registration.

Due to the restricted number of allowed participants (Covid-19 safety regulations) at the Faculty of Medicine in Heraklion, the limited additional places for physical attendance will be distributed to the members of the Innogly Action on the « first-come -first served » basis. All interested Innogly action members, however, are invited to attend the meeting via the Zoom platform.

Please send the registration forms and, in case of willingness to present to:
nikitovic@uoc.gr, sergeperez@gmail.com, berdiaki@uoc.gr.

with the following information :

Herewith I register for the Hybrid INNOGLY Meeting: **GlycosAminoGlycans: What remains to be solved?**

and I confirm my acceptance of the conditions:

Given Name:

Family Name:

Early career investigators (ECI): Yes No PhD student

Institution:

Department:

Street:

Town:

Zip Code:

Country:

Email:

Phone:

I would like to attend **physically** the meeting upon availability. Yes / No

I would like to present Yes/No

Presentation title (if Yes) ""

Photographs, video-streaming, etc. during the conference – The Organizer may free of charge and, without the further consent of the participants, use and release pictures and shots taken of the participants and/or their works (such as posters, excerpts of presentations or lectures) during the Symposium for reports of INNOGLY-WG4-2021 and public relation work. Attendees who do not wish to give permission, please email to the organizers before the commencement of the conference.

Privacy Policy - All personal data provided to the Organizer for registration will be treated confidentially. The data shall be used and stored for further processing and documentation purposes. The Organizer will only disclose information to third parties if necessary for the fulfilment and successful performance of the conference series.

Topical organizing committee: Dragana Nikitovic, Aikaterini Berdiaki, Ioanna Spyridaki, Eirini-Maria Giatagana, Lydia-Nefeli Thrapsanioti