

XIX CONVEGNO-SCUOLA SULLA CHIMICA DEI CARBOIDRATI (XIX-CSCC 2025)

22-25 Giugno 2025
Certosa di Pontignano – Siena

<https://www.chimcarb.it>



Università di Pisa
Dipartimento di Farmacia



Università di Siena
Dipartimento di Biotecnologie, Chimica e Farmacia



Università di Firenze
Dipartimento di Chimica "U. Schiff"

PROGRAM

	Sunday June 22th
11:00÷16:00	Registration
16:00÷16:30	Opening
	Chairman: ANTONIO MOLINARO
16:30÷17:15	Medaglia “G. Berti” Lecture 1
17.15÷18.00	Medaglia “G. Berti” Lecture 2
	Chairman: ANGELO PALMIGIANO
18:00÷18:45	PL-1: Gordan Lauc (<i>University of Zagreb, Croatia</i>) The Human glycome project - What did we learn from the first 200,000 glycomes?
19:30	WELCOME COCKTAIL AT CERTOSA
	Monday June 23th Morning
	Chairlady: ANNA BERNARDI
9:00÷9:45	PL-2: Laurence Mulard (<i>Institute Pasteur, Paris, France</i>) Synthetic carbohydrate-based bacterial vaccines: from concept and challenges to promising immunogenicity data in the target population
9:45÷10:00	OC-1: Giuseppe Stefanetti, Meng Wu, Dennis L. Kasper (<i>Università di Urbino</i>) Microbiota Strain-Level Variation Modulates Immune Responses to Glycoconjugate Vaccines
10:00÷10:15	OC-2: Rachel Carpaye, Giuseppe D’Orazio, Luigi Lay (<i>Università di Milano</i>) Synthesis of a panel of glycans from ATCC 17978 and ATCC 17961 <i>Acinetobacter baumannii</i> polysaccharides
10:15÷10:30	OC-3: Filippo Carboni, Marta Dolce, Daniela Proietti, Silvia Principato, Giusy Manuela Adamo, Sara Favaron, Elia Ferri, Maria Scarselli, Linda Del Bino, Roberta Cozzi, Giacomo Romagnoli, Giovanna Tuscano, Cristiana Balocchi, Giada Buffi, Margherita Bodini, Cecilia Brettoni, Fabiola Giusti, Sara Marchi, Giulia Brogioni, Barbara Brogioni, Paolo Cinelli, Luigia Cappelli, Chiara Nocciolini, Silvia Senesi, Claudia Facciotti, Elisabetta Frigimelica, Monica Fabbrini, Daniela Stranges, Silvana Savino, Domenico Maione, Roberto Adamo, Benjamin Wizel, Immaculada Margarit, Maria Rosaria Romano (<i>GSK, Siena</i>) In Vitro Self-Assembling Protein Nanoparticles: Innovative Carriers for Next-Gen Carbohydrate Vaccines
10:30÷10:45	OC-4: Alessandro Antonio Masi, Cristina Di Carluccio, Roberta Marchetti, Antonio Molinaro, Peter A. Rice, Sanjay Ram, Benjamin P. Beernink, Alba Silipo. (<i>Università di Napoli Federico II</i>) Structural clues to target <i>Neisseria gonorrhoeae</i> by deciphering the 2C7 epitope: Implications for Vaccine Design
10:45÷11:30	COFFEE BREAK
	Chairlady: ALBA SILIPO
11:30÷12:15	PL-3: Ryan Gilmour (<i>Institute for Organic Chemistry, Universität Münster, Münster, Germany</i>) Fluorinated Glycostructures: A New Frontier in Chemical Biology
12:15÷12:30	OC-5: Jamshed Iqbal, Luca Banfi, Maria Jose Calandri, Renata Riva, Marco Rizzo (<i>Università di Genova</i>) Allylation of Levoglucosenone and Its Derivative
12:30÷12:45	OC-6: Gianluca Cavazzoli, Iacopo Gamberoni, Sarah Mazzotta, Anna Bernardi, Luca Pignataro (<i>Università di Milano</i>) Synthesis of α-C-Arylglycosides by Ni-Photoredox Catalysis

12:45÷13:00	OC-7: Lorenzo Taglietti , Giuseppe Bonapace, Francesca Clemente, Laura Legnani, Maria Teresa Moricca, Giuseppe Felice Mangiatordi, Eva Palomba, Maria Giovanna Eva Papadopoulos, Barbara La Ferla (Università di Milano-Bicocca) L-Iduronic Acid-Type 1-N-Iminosugars as Pharmacological Chaperones for the Rescue of α-L-Iduronidase in Mucopolysaccharidosis Type I
13:00÷14:30	LUNCH AT CERTOSA
	Monday June 23th Afternoon
	Chairlady: LAURA RUSSO
14:30÷15:15	PL-4: Pedro Fardim (EPNOE, KU Leuven, Leuven, Belgium) Functional Polysaccharides as Future Biomaterials
15:15÷15:30	OC-8: Claudia Migliorini , Ju Wang, Pietro Matricardi, Chiara Di Meo (Sapienza University of Rome) Improving the Physicochemical Properties of Hyaluronic Acid Based Nanohydrogels by Dopamine-Iron(III) Coordination Interaction
15:30÷15:45	OC-9: Marco Piazzoni , Ilaria Borghi, Sophia Dalfino, Riccardo Campanile, Francesca Tallia, Valeria Cassina, Julian R. Jones, Francesco Mantegazza, Lorenzo Moroni, Francesco Nicotra, Laura Russo (Università di Milano-Bicocca) Chondroitin sulfate-gelatin hydrogel to induce angiogenesis in vitro
15:45÷16:00	OC-10: "B. Casu" award talk Sarah Mazzotta (Università di Milano) Skeletal Editing of Fucose by Radical Photo-Mediated Giese-Type Alkylation
16:00÷16:30	COFFEE BREAK
	Chairlady: FLAVIANA DI LORENZO
16:30÷16:45	OC-11: Giulio Goti , Alessia Marrese, Simone Baldon, Patricia Gómez Roibás, Giorgio Pelosi, Andrea Sartorel, Luca Dell'Amico. (Università di Padova) Radical Strategy to the Synthesis of Bicyclo[1.1.1]Pentyl C-Glycosides
16:45÷17:00	OC-12: Domenico Santandrea , Jacopo Caldato, Valentina Beghetto (Università di Venezia) Aqueous Amidation of Carboxymethylcellulose Using DMTMM: Toward Functional Paper Coatings
17:00÷17:15	OC-13: Sabrina Bertini , Carlo Antonini, Irene Tagliaro, Emiliano Esposito, Anna Alekseeva, Fabio Neggiani, Marco Sansò, Sabrina Ziliani (Università di Milano-Bicocca) Functionalization of Tamarind (<i>Tamarindus indica</i> L.) seed polysaccharide with 1,4-Butanediol diglycidyl ether (BDDE).
17:15÷18:45	POSTER SESSION
18:45	Meeting of the Italian Group on Carbohydrate Chemistry (GICC)
20:00	DINNER AT CERTOSA
	Chairlady: SABRINA BERTINI
21:45-22:30	SOCIAL EVENT: Irene Tagliaro (Università di Milano-Bicocca) Science and Society
	Tuesday July 24th Morning
	Chairman: OSCAR FRANCESCONI
9:00÷9:45	PL-5: Matthieu Sollogoub (Sorbonne University, Paris, France) Synthetic sugars playing the role of proteins

9:45÷10:00	OC-14: Anna Alekseeva , Sabrina Bertini, Giorgio Eisele, Marco Guerrini (IRCB-Ronzoni, Milano) Toward a Comprehensive Structural Characterization of Pentosan Polysulfate
10:00÷10:15	OC-15: Gaia Scaramella , Angela Stabile, Lise Golterman, Tim Tolker-Nielsen, Paola Cescutti, John W. Brady, Daniele Sblattero. (Università di Trieste) Discovery of a Novel Set of Peptides Capable of Interacting with Biofilm Exopolysaccharides Isolated Using Yeast Display Technology
10:15÷10:30	OC-16: F. Milanese , N. Burrini, G. Corti, S. Roelens, O. Francesconi (Università di Firenze) A Synthetic Receptor for the Recognition of the Disaccharide of the α-Gal Antigen
10:30÷10:45	OC-17: Sergio Novelli , Cristina Di Carluccio, Maria Pia Lenza, Antonio Molinaro, Alba Silipo (Università di Napoli Federico II) Insights into the Binding of Small Ligands to Sting and Siglec-7, Possible Targets for Cancer Therapy
10:45÷11:30	COFFEE BREAK
	Chairlady: MARIA R. ROMANO
11:30÷12:15	PL-6: Marcelo Guerin (IBMB-CSIC, Barcelona, Spain) Enzymatic polymerization of bacterial capsules
12:15÷12:30	OC-18: Antonella Aquilone , Immacolata Speciale, Anna Notaro, Antonio Molinaro, Cristina De Castro (Università di Napoli Federico II) From in Silico Predictions to Biochemical Validation: Functional Insights into the PBCV-1 Glycosyltransferase A111/114R
12:30÷12:45	OC-19: Davide Dell'Accantera , Maria Cremonini, Giovanni Maria Siciliano, Francesca Clemente, Francesca Mangiavacchi, Francesca Cardona, Francesco Sansone (Università di Parma) Multivalent Calixarene-Trihydroxypiperidine Conjugates for GCASE Activity Restoration
12:45÷13:00	OC-20: Alessia Stornaiuolo , Maria Pia Lenza, Antonio Molinaro, Alba Silipo (Università di Napoli Federico II) Structural Insights into GALECTIN-3 Recognition of a Selenoglycomimetic
13:00÷14:30	LUNCH AT CERTOSA
	Tuesday June 24th Afternoon
	Chairlady: PAOLA CESCUTTI
14:30÷15:15	PL-7: Jerry Eichler (Department of Life Science, Ben-Gurion University of the Negev, Beersheva, Israel) N-Glycosylation in Archaea: Dolce all'Estremo (Sweet to the Extreme)
15:15÷15:30	OC-21: Valentina Mazziotti , Luca De Simone Carone, Antonio Molinaro, Flaviana Di Lorenzo (Università di Napoli Federico II) A glimpse into the Gut-Brain Axis: Exploring the Effects of Lipopolysaccharide from gut bacterium <i>Bacteroides vulgatus</i> on Microglia.
15:30÷15:45	OC-22: Luisa Sturiale , Simone Treccarichi, Angela Messina, Angelo Palmigiano, Mirella Vinci, Lara Cirnigliaro, Fabio Pettinato, Antonino Musumeci, Valeria Chiavetta, Salvatore Saccone, Francesco Calì, Rita Barone. (CNR-IPCB-CT, Catania) Glycosylation defects in a patient with MAN2A2 variants: clinical, molecular and glycomic insights
15:45÷16:00	OC-23: Andrea Iovine , Giulia Bisson, Immacolata Speciale, Anna Notaro, Marilena Marino, Cristina De Castro (Università di Napoli Federico II) Structural Elucidation of a Capsular Polysaccharide from <i>Lactiplantibacillus plantarum</i>
16:00÷16:15	OC-24: Michele Gianelli , Marco Guerrini, Valerio Ravaglia, Laura Russo, Massimiliano Stagi, Ed Yates, Filippo Zanoni, Sabrina Bertini, Sofia Nizzolo (IRCB-Ronzoni, Milano) Lipid Nanoparticles: encapsulation of Heparin

16:15÷16:30	OC-25: Chiara Mangini , Giacomo Biagiotti, Saverio Minucci, Cristina Garibaldi, Barbara Richichi (Università di Firenze) A Programmable Glyconanomaterial for Targeted Cancer Therapy: the Case of Cellulose Nanocrystals in Precision Radiotherapy
17.00	Social Event & Social dinner
	Wednesday June 25th Morning
	Chairman: LUIGI LAY
9.30÷10:15	PL-8: Peter Seeberger (Max-Planck Institute for Colloids and Surfaces, Potsdam, Germany) Automated Glycan Assembly Enables the Glycosciences
10.15÷10:30	OC-26: Claudia González Castro , Mauro De Nisco, Reinier Lemos, Giovanna Cimmino, Yoana Pérez-Badell, Severina Pacifico, Silvana Pedatella (Università di Napoli Federico II) New Glycoconjugates Containing Selenium and Polyphenols
10.30÷10:45	OC-27: Giuseppe D'Orazio, Luigi Lay, Monica Civera, Francesca Tanda, Davie Kenneth (Università di Milano) Synthesis and Computational Studies of <i>Bacteroides Fragilis</i> Lipid A Analogues
10.45÷11:00	OC-28: Silvia Fanina , Angela Casillo, Carmen Arena, Simonetta Frascchetti, Maria Michela Corsaro (Università di Napoli Federico II) The Structural Characterization of Cell-Wall Polysaccharides from <i>Ellisolandia Elongata</i> Seaweeds.
11.00÷11:30	COFFEE BREAK
	Chairlady: CRISTINA DE CASTRO
11.30÷11:45	OC-29: Ornella Serpino , G. Vezzani, R. Alfini, E. Boero, R. Di Benedetto, G. Batani, M. Ridelfi, E. Roscioli, O. Rossi, C. Sala, F. Micoli, A. Molinaro, C. Giannelli, A. Silipo (Università di Napoli Federico II/GSK Siena) Structural Biology Approaches for Characterization of <i>Shigella</i> O-Antigen Specific Monoclonal Antibodies
11.45÷12:00	OC-30: Maria Chiara Santangelo , Leonardo Papa, Dina Akl, Lamiaa Mohamed Ahmed Ali, Magali Gary-Bobo, Olivier Maury, Valeria Di Bussolo, Sebastiano Di Pietro. (Università di Pisa) Glycoconjugated luminescent Ln (III) complexes as selective bioimaging probes
12.00÷12:15	OC-31: Maria Masiello , Antonio Molinaro, Flaviana Di Lorenzo, Alba Silipo (Università di Napoli Federico II) Decoding the Glycans: Structural Insights into LPS Variability and Function
12.00÷12:15	OC-32: Civera Monica, Parafioriti Michela, Elli Stefano, Guerrini Marco, Mandalari Marco (Università di Milano/ IRCB-Ronzoni, Milano) A Sticky Situation: The Role of Heparan Sulphate in SARS-CoV-2 Variant Recognition
12.30÷12:45	Poster awards and young scientists' oral communication awards and Closing remarks
12.45	LUNCH AT CERTOSA

PL: Plenary Lecture; **OC:** Oral Communication.

Poster Communication

PC-1	Linda Del Bino, Filippo Carboni, Roberta Cozzi, Giacomo Romagnoli, Giovanna Tuscano, Cristiana Balocchi, Giada Buffi, Margherita Bodini, Cecilia Brettoni, Fabiola Giusti, Sara Marchi, Giulia Brogioni, Barbara Brogioni, Paolo Cinelli, Luigia Cappelli, Chiara Nocciolini, Silvia Senesi, Claudia Facciotti, Elisabetta Frigimelica, Monica Fabbrini, Daniela Stranges, Silvana Savino, Domenico Maione, Roberto Adamo, Benjamin Wizel, Immaculada Margarit, Maria Rosaria Romano. (GSK, Siena) Proof of Concept for a Single-Dose Group B Streptococcus Vaccine Based on Capsular Polysaccharide Conjugated to Qβ Virus-Like Particles
PC-2	Barbara Brogioni, Francesco Papi, Filippo Carboni, Lucia Dello Iacono, Francesca Nonne, Linda Del Bino, Sara Bertuzzi, Luca Unione, Daniela Proietti, Evita Balducci, Davide Oldrini, Nathalie Norais, Francesco Berti, Immaculada Margarit, Jesús Jiménez-Barbero, Roberto Adamo, Maria Rosaria Romano. (GSK, Siena) Carbohydrate Epitope Mapping Guides Next Generation Glycoconjugate Vaccines
PC-3	Evita Balducci, Marta Dolce, Daniela Proietti, Silvia Principato, Fabiola Giusti, Giusy Manuela Adamo, Sara Favaron, Elia Ferri, Immaculada Margarit, Maria Rosaria Romano, Maria Scarselli, Filippo Carboni (GSK, Siena) Impact of Protein Nanoparticle Shape on the Immunogenicity of Antimicrobial Glycoconjugate Vaccines
PC-4	Laura Russo, F. Cadamuro, M. Piazzoni, E. Gamba, B. Sonzogni, F. Previdi, Francesco Nicotra, A. Ferramosca (Università di Milano-Bicocca) Artificial Intelligence tool for prediction of glycosylated ECM mimics hydrogel formulations
PC-5	F. Cadamuro; M. Ghizzi; H. Fahad; L. Crippa; A. Bentivegna; G. Nicolini; A. Bravin; P. Cloetens; P. Coan; F. Nicotra; L. Russo. (Università di Milano-Bicocca) Glycans-based ECM Mimetic Bioinks for 3D Bioprinting of Glioblastoma Models
PC-6	Angela Messina, Anna Notaro, Immacolata Speciale, Luisa Sturiale, Cristina De Castro, Angelo Palmigiano (CNR-IPCB-CT, Catania) Changes in N-Glycosylation pattern of <i>Chlorella variabilis</i> after PBCV-1 infection
PC-7	Emilia Uslenghi, Taran Kandola, Sofia Nizzolo, Edwin A. Yates, Marco Guerrini, Marcelo A. Lima, Antonella Bisio (IRCB-Ronzoni, Milano) A Circular Economy Strategy for Repurposing Heparin Manufacturing By-Products as Anti-Inflammatory Therapeutics
PC-8	Michela Parafioriti, Tessa Bolognesi, Marco Schiavina, Cristina Ciabini, Mark A. Skidmore, Marcelo A. Lima, Edwin A. Yates, Isabella C. Felli, Stefano Elli, Marco Guerrini (IRCB-Ronzoni, Milano) Heparin/Heparan Sulfate Interactions with SARS-COV-2 Proteins: Molecular Insights and Antiviral Implications
PC-9	Eugenia Cambareri, Laura Morelli, Giuseppe D'Orazio, Luigi Lay, Federica Compostella (Università di Milano) A Saccharide Fragment Related to <i>Streptococcus Pneumoniae</i> 19F Serotype for the Preparation of Glyconanoplatfoms
PC-10	Camilla Matassini, Costanza Cicchi, Francesca Clemente, Sara Pavone, Luigia Pazzagli, Paolo Paoli, Francesca Cardona, Marta Ferraroni, Simone Luti (Università di Firenze) A New Target for Multivalent Iminosugars: The Levansucrase Enzyme
PC-11	Sara Callozzo, Luis Padilla-Cortés, Linda Cerofolini, Marco Fragai (Università di Firenze) NMR Assessment of the High Order Structure of Biological Therapeutics in Erythrocytes Provides a New Tool for Drug Delivery Design
PC-12	Ileana Žeravica, Siyu Lin, Henry Noah Flatau, Marco Fragai, Cristina Nativi (Università di Firenze) A Stable Thio Analogue of 2'-Fucosyllactose for Potential Norovirus Binding Enhancement

PC-13	Oscar Francesconi, <u>Nauti MohamedzakariaShibinasbarveen</u> (Università di Firenze) Covalent Podands and Macrocycles for the Molecular Recognition of Carbohydrates
PC-14	<u>Paula González</u> , Francesco Milanesi, Oscar Francesconi, Cristina Nativi (Università di Firenze) Development of Cellotriose-β-OMe Trisaccharide as a Ligand for Binding Studies with Carbohydrate Binding Molecules.
PC-15	Antonio Lembo , Immacolata Speciale, Anna Notaro, Antonio Molinaro, Matthias Fischer, Hiroyuki Ogata, Cristina De Castro (Università di Napoli) Analysis of the KDO Biosynthetic Cluster in CROV
PC-16	Raffaele D'Amico , Valentina Vassallo, Irene Paris, Marika Trecca, Angela Casillo, Chiara Schiraldi, Rosanna Papa, Maria Michela Corsaro (Università di Napoli Federico II) Lifestyle and Antimicrobial Resistance Profile of <i>Pseudomonas Aeruginosa</i> Isolated from Cystic Fibrosis Patients Modulate Inflammatory Response via Variations in Lipid A Structures
PC-17	Michela Zaro , Neil Ravenscroft, Barbara Bellich, Greta Poncecchi, Marco M. D'Andrea, Francesca Nonne, Mariagrazia Molfetta, Carlo Giannelli, Francesca Micoli, Paola Cescutti (Università di Trieste) Characterization of the Primary Structure of the Novel <i>Klebsiella Pneumoniae</i> Kp-IT395 Capsular Polysaccharide
PC-18	Dhanasri Jayamoorthi , Michela Zaro, Gaia Scaramella, Cristina Lagatolla, Sabrina Pacor, Demi Vattovaz, Rita De Zorzi, Lucia Henrici De Angelis, Marco M. D'Andrea, Paola Cescutti (Università di Trieste) Characterization of Bacteriophage Endoglycosidase Against <i>Klebsiella Pneumoniae</i> as a Tool for New Antimicrobial Strategies
PC-19	Elena Di Marzo , Ruth Mateu Ferrando, Laura Polito, Laura Ragona, Katiuscia Pagano, Giuseppe D'Orazio, Luigi Lay (Università di Milano) ABO Blood Sugar Antigen-Functionalized Gold Nanoparticles: Innovative Nanotools for Biomedical Applications
PC-20	G. Aresta , Giuseppe D'Orazio, Luigi Lay (Università di Milano) Synthetic Design of <i>Streptococcus Pneumoniae</i> 6A/6C Oligosaccharides for Vaccine Development
PC-21	Mohini Burnwal , Giuseppe D'Orazio, Luigi Lay (Università di Milano) Development of Synthetic Fragments of the Capsular Polysaccharide Derived from <i>Acinetobacter Baumannii</i> LAC-4 Strain
PC-22	Diego Colombo, Martina Quaglia, Valentina Pelliccioli, Giuseppe Junior Mosca, Simone Russo, Pietro Pettinari, Giovanni L. Beretta, Paola Perego, Giuseppe Vitiello, Laura Morelli (Università di Milano) Glycoglycerolipids for Active Biomolecule Anchoring in Biosensing Platforms
PC-23	Giulia Antonini, Jacopo Gori, Francesca Vasile, Laura Belvisi, Anna Bernardi, Sarah Mazzotta, Arianna Gorgoni (Università di Milano) C-5 Modification of β-Fucosides as a Strategy for Targeting the BC2L-C Lectin
PC-24	<u>Eva Palomba</u> , Lorenzo Taglietti, Barbara La Ferla (Università di Milano-Bicocca) Design and Synthesis of Multi/Hetero-Valent Glycofused Benzopyran-Curcumin Systems Targeting Aβ Aggregation