

## Detailed Programme

### Saturday, July 14 | ICS Iberian Day | Horton Room (3.2.14)

08:00 Registration

09:00 Opening Ceremony | L. Carriço, J. Jiménez-Barbero, J. Cañada,  
A. Galvão, M. Coimbra, A. P. Rauter

#### MORNING SESSION 1 | Chaired by J. Jiménez-Barbero and A. P. Rauter

- 09:20 ID-IL1 Carbohydrates for Medicine and Diagnosis *Sp<sup>2</sup> iminosugars: opportunities for new glycotherapies*  
**C. Ortiz-Mellet**  
Universidad de Sevilla, Spain
- 09:40 ID-IL2 Glycosciences and Personalized Medicine *Glycoimmunology: cracking sugars to develop new immunotherapies*  
**P. Videira**  
Universidade Nova de Lisboa, Portugal
- 10:00 ID-OC1 Carbohydrates for Medicine and Diagnosis *Discovery of potent glycosidase inhibitors by in situ analysis of a library of Hybrid molecules generated via click chemistry*  
**A. T. Carmona**  
Universidad de Sevilla, Spain
- 10:15 ID-FL1 Glycosciences and Personalized Medicine *Hydroxypropyl- $\beta$ -cyclodextrin and  $\beta$ -cyclodextrin as tablet direct compression fillers*  
**J. M. Conceição**  
Faculdade de Farmácia, Universidade do Porto, Portugal
- 10:20 ID-FL2 Inflammation and Disease *Co-administration of anti-microbial peptides helps in the activity of FP7 glycolipid (TLR4 antagonist)*  
**H. Coelho**  
CICBiogune, Spain
- 10:25 ID-OC2 Carbohydrates for Medicine and Diagnosis *Synthesis of N-acetylgalactosamine mimetics tackling multiple targets: hemorrhagic virus and Alzheimer's disease*  
**J. Barros**  
Faculdade de Ciências, Universidade de Lisboa, Portugal
- 10:40 ID-IL3 Carbohydrates for Medicine and Diagnosis *Halogens and chalcogens in chemical glycobiology*  
**O. Boutureira**  
Universitat Rovira I Virgili, Spain
- 11:00 Coffee Break

#### MORNING SESSION 2 | Chaired by P. Videira and J. Cañada

- 11:30 ID-IL4 Carbohydrates for Medicine and Diagnosis *Glycosphingolipid and analogues as Immunostimulants of Nkt cells*  
**J. Llebaria**  
IQAC-CSIC, Spain
- 11:50 ID-FL3 Glycosylation and Disease *Hypoxia enhances the malignant nature of bladder cancer cells and concomitantly antagonizes protein O-glycosylation extension*  
**J. Peixoto**  
IPO, Porto Research Center, Portugal
- 11:55 ID-FL4 Carbohydrates for Medicine and Diagnosis *Post-synthetic strategy for superficial Carbohydrate-coating of mesoporous Mil-100(Fe) NANOMOFs as biocompatible nanocarriers*  
**G. Cutrone**  
Universidad de Almeria, Spain
- 12:00 ID-FL5 Carbohydrates for Medicine and Diagnosis *Bacterial cellulose surface modification for microfluidic applications*  
**S. Leal**  
Universidade do Minho, Portugal
- 12:05 ID-FL6 Inflammation and Disease *Toll-like receptor 4. Computational Chemistry studies on its modulation*  
**J. Guzmán-Caldentey**  
CIB, Spain
- 12:10 ID-IL5 Glycans *Lanthanide-chelating carbohydrate conjugates to detect carbohydrate-Protein interactions*  
**A. Canales**  
Universidad Complutense de Madrid, Spain

12:30 Lunch

**AFTERNOON SESSION 1** | *Chaired by J. M. Garcia Fernandez and  
N. M. Xavier*

- 14:00 ID-IL6 Glycosylation and Disease *Development of glycomimetics for dendritic cell targeting*  
**N. Reichardt**  
CICbiomaGUNE, País Basco, Spain
- 14:20 ID-FL7 Natural Glycoconjugates *Insights in the recognition of listeria cell wall teichoic acids by phage endolysins using NMR*  
**I. Kalograiaki**  
Centro de Investigaciones Biológicas, CSIC, Spain
- 14:25 ID-FL8 Carbohydrates for Medicine and Diagnosis *A fast NMR-assisted combinatorial method for optimizing nucleic acid binders*  
**A. G. Santana**  
Instituto General de Química Orgánica, CSIC, Spain
- 14:30 ID-FL9 Synthesis *Obtaining the first thioglycoligase from the GH3 family*  
**M. N. Domínguez**  
Biological Research Center, Spain
- 14:35 ID-IL7 Synthesis *Carbohydrate synthesis for solving Biological problems*  
**R. Ventura**  
ITQB, Portugal
- 14:55 ID-FL10 Synthesis *Bacterial cell wall surrogates from chitosan: a new recognition system*  
**F. Queda**  
Universidade Nova de Lisboa, Portugal
- 15:00 ID-FL11 Carbohydrates for Medicine and Diagnosis *Cyclodextrin-based molecular vector theranostics*  
**M. González Cuesta**  
Universidad de Sevilla  
Spain
- 15:05 ID-IL8 Synthesis *Synthesis of C-glycosyl molecular entities as a strategy for the treatment of amyloid and infectious diseases*  
**M. T. Blázquez-Sánchez**  
Faculdade de Ciências, Universidade de Lisboa, Portugal
- 15:25 ID-FL12 Carbohydrates and Nutrition *Contribution of non-enzymatic trans-glycosylation reactions to honey oligosaccharides origin and diversity*  
**E. Coelho**  
Universidade de Aveiro, Portugal
- 15:30 ID-IL9 Synthesis *Eco-friendly synthesis and antiproliferative activity of carbohydrate-derived heterocycles*  
**V. Luque-Agudo**  
Universidad de Extremadura, Spain
- 15:50 ID-FL13 Synthesis *Synthesis of new types of potentially bioactive furanosyl nucleoside and nucleotide analogues*  
**A. Fortuna**  
Faculdade de Ciências, Universidade de Lisboa, Portugal
- 15:55 ID-FL14 Glycoinformatics *In silico design of halogenated carbohydrate mimetics as potential halogen-bonding ligands*  
**R. Nunes**  
Faculdade de Ciências, Universidade de Lisboa, Portugal
- 16:00 ID-IL10 Glycomaterials *Functional polysaccharide-based materials for food and biomedical applications*  
**C. Nunes**  
Universidade de Aveiro, Portugal
- 16:20 ID-OC3 Biomolecule Structure *Enzymatic tools to glycoengineer antibodies*  
**B. Trastoy**  
CIC Biogune, Spain
- 16:35 ID-IL11 Synthesis *From chitosan to Nag-Nam surrogates*  
**M. M. Marques**  
Universidade Nova de Lisboa, Portugal

16:55 Coffee Break

**AFTERNOON SESSION 2** | Chaired by N. Reichardt and F. Marcelo

- 17:25 ID-OC4 Carbohydrates for Medicine and Diagnosis *Adaptable microarray approach for rapid evaluation of bacterial anti-adhesives*  
**D. Solís**  
Instituto de Química Física Rocasolano, CSIC, Spain
- 17:40 ID-FL15 Biomolecule Structure *Molecular recognition of glycans by lectins of the immune system*  
**A. C. Diniz**  
Universidade Nova de Lisboa, Portugal
- 17:45 ID-OC5 Biomolecule Structure *Chondroitin sulfate derivatives and dendrimers and their binding to midkine and langerine by NMR*  
**P. Nieto**  
Universidad de Sevilla, Spain
- 18:00 ID-FL16 Glycosylation and Disease *Unravelling ErbB2 glycosylation signature in gastric cancer cells*  
**H. Duarte**  
Institute of Molecular Pathology and Immunology of the University of Porto (Ipatimup/i3S), Portugal
- 18:05 ID-FL17 Glycans *Synthesis of chondroitin sulfate dendrimers and binding to growth factor midkine*  
**J. L. de Paz**  
Instituto de Investigaciones Químicas, IIQ, CSIC
- 18:10 ID-OC6 Carbohydrates for Medicine and Diagnosis *Exploring sialyl-Tn expression in microfluidic-isolated circulating tumor cells: a biomarker for precision oncology applications*  
**J. A. Ferreira**  
IPO, Porto Research Center, Portugal
- 18:25 ID-IL12 Biomolecule Structure *The interdomain flexible linker of the polypeptide GalNAc transferases dictates their long-range glycosylation preferences*  
**R. Hurtado-Guerrero**  
University of Zaragoza, Spain
- 18:45 ID-IL13 Carbohydrates for Medicine and Diagnosis *The story behind the discovery of nature-inspired sugar conjugates with therapeutic potential against Diabetes and Alzheimer's disease*  
**A. M. de Matos**  
Faculdade de Ciências, Universidade de Lisboa, Portugal
- 19:05 **Closure** | J. Cañada, M. Coimbra, A. P. Rauter, A. Galvão  
A tribute to S. Penadés, M. Martín Lomas, J. Jimenéz-Barbero and J. C. Palácios
- 19:30 **Social Program** | Ensemble "3 Bairros"  
Ricardo Gama - Portuguese Guitar  
João Correia - Classic Guitar  
Guilherme Madeira - voice  
Margarida Soeiro - Fado Singer

Sunday, July 15 | Horton Room (3.2.14)

## ICS YOUNG RESEARCHER WORKSHOP

08:30 Opening Ceremony | S. Flitsch, N. M. Xavier, A. P. Rauter

Chaired by N. M. Xavier

08:45 YRW-PL1 *Analysis of carbohydrates using fragment based hyphenated mass spectrometry*  
**S. Flitsch**  
The Manchester Institute of Biotechnology, United Kingdom

## CARBOHYDRATES FOR MEDICINE AND DIAGNOSIS

09:30 YRW-FL1 *A novel and concise synthesis of legionaminic acid and 4-epi-legionaminic acid*  
**M. Gintner**  
Department of Organic Chemistry, University of Vienna, Austria

09:35 YRW-FL2 *C-glycosides – Novel galectin inhibitor scaffolds*  
**A. Dahlqvist**  
Centre for Analysis and Synthesis, Lund University, Sweden

09:40 YRW-FL3 *DC-SIGN, DC-SIGNR and LSECtin: potential selective interaction with positional antennae isomers*  
**S. Achilli**  
Institut de Biologie Structurale, Isère (FR) Grenoble, France

09:45 YRW-FL4 *The mechanisms of anticoagulant activity of the Glycoconjugates isolated from Conyza 4anadensis L. by the ultrasounds-assisted extraction*  
**S. Balicki**  
Department of Organic and Pharmaceutical Technology, Wrocław University of Science and Technology, Poland

09:50 YRW-FL5 *Development of a novel hybrid chitosan-nano TiO<sub>2</sub> sponge for alveolar bone tissue regeneration*  
**R. Ikono**  
Department of Bionanotechnology, Nano Center Indonesia, Indonesia

## SYNTHESIS

10:00 YRW-FL6 *Synthesis of capsular polysaccharide fragments of the fungal pathogen Cryptococcus neoformans and their potential applications as FRET probes*  
**C. J. Crawford**  
School of Chemistry, University College Dublin, Ireland

10:05 YRW-FL7 *Synthesis of XylB1-4Rbo, partial structure of O-mannosyl glycan*  
**T. Tamura**  
Department of Agricultural Science, Tottori University, Japan

10:10 YRW-FL8 *Synthetic exploration of xylose analogs*  
**D. Willén**  
Centre for Analysis and Synthesis, Lund University, Sweden

10:15 YRW-FL9 *Synthesis of novel D-glucuronamide-based triazole nucleosides as potential anti-Alzheimer agents*  
**R. Gonçalves Pereira**  
Faculdade de Ciências, Universidade de Lisboa, Portugal

10:20 YRW-FL10 *Concentration-dependent reactivity and stereoselectivity glycosylation: why a reaction may stop at some concentrations?*  
**D. A. Ahiadorme**  
N.K. Kochetkov Laboratory of Carbohydrate Chemistry, N.D. Zelinsky Institute of Organic Chemistry, Russian Federation

10:25 Coffee Break

## VACCINES

Chaired by A. Palma

- 10:45 YRW-FL11 *Selection of novel C-type lectin ligands through new scanning method*  
**B. Didak**  
GLYcoDiag, Chevilly, France
- 10:50 YRW-FL12 *Synthesis and vaccine potential of bacterial mimetics against HIV-1*  
**N. Trattnig**  
Department of Chemistry, University of Natural Resources and Life Sciences, Austria
- 10:55 YRW-FL13 *Facial synthesis of Globo H analogs conjugated vaccines and their immunogenicity studies*  
**C.-Y. Chen**  
Genomic Research Center, Academia Sinica, Taiwan

## GUT MICROBIOTA

- 11:00 YRW-FL14 *Decoding Akkermansia muciniphila lipopolysaccharides*  
**P. García-Vello**  
Department of Chemical Sciences, University of Naples Federico II
- 11:05 YRW-FL15 *Assessing human microbiota systems for glycan recognition in the gut*  
**V. Correia**  
UCIBIO@REQUIMTE, FCT/NOVA, Portugal
- 11:10 YRW-FL16 *Understanding the molecular mechanism underpinning the immunomodulatory function of levan exopolysaccharide*  
**I. D. Young**  
The Gut Health and Food Safety Programme, Quadram Institute, UK

## GLYCOMATERIALS

- 11:15 YRW-FL17 *A GH 20 thioglycoligase as versatile catalyst for glycoconjugate synthesis*  
**G. Tegl**  
Department of Chemistry, University of British Columbia, Canada
- 11:20 YRW-FL18 *Well-defined oligo and polysaccharides as ideal probes for structural studies*  
**M. Delbianco**  
Biomolecular Systems Department, Max Planck Institute of Colloids and Interfaces, Germany

## GLYCAN/GLYCOCONJUGATES/GLYCOSYLATION AND DISEASE

- 11:25 YRW-FL19 *Structural and immunological features of Acetobacter pasteurianus CIP103108 lipopolysaccharide*  
**M. Pallach**  
Department of Chemical Sciences, University of Naples Federico II, Italy
- 11:30 YRW-FL20 *Synthesis of cyclic peptoid-based iminosugar clusters*  
**I. Izzo**  
University of Salerno, Italy
- 11:35 YRW-FL21 *In-depth glycomics/glycoproteomics evaluation of tumour-associated carcinoembryonic antigen using state-of-art mass spectrometry*  
**A. Almeida**  
Institute for Glycomics, Griffith University, Australia
- 11:40 YRW-FL22 *Unravelling N-glycans recognition by SigLecs*  
**R. Marchetti**  
Department of Chemical Sciences, University of Naples Federico II, Italy

## GLYCOINFORMATICS/ANALYSIS

- 11:45 YRW-FL23 *Molecular recognition of sialic acids by immunity receptors: computational approaches*  
**E. Crisman**  
Department of Structural and Chemical Biology, CIB-CSIC, Spain
- 11:50 YRW-FL24 *Unsaturate cyclitols as glycoside mimics: spontaneous and enzymatic hydrolysis*  
**P. Danby**  
Department of Chemistry, University of British Columbia, Canada
- 11:55 YRW-FL25 *Profiling HA-NA-balance by means of an HPLC-MS-Based Method*  
**V. J. Somovilla**  
Department of Chemical Biology and Drug Discovery, Utrecht University, The Netherlands
- 12:00 YRW-PL2 *Beam search arrays for (O)-glycan ligand discovery*  
**T. Feizi**  
Department of Medicine, Imperial College London, United Kingdom

12:45

Lunch

## ICS 2018

**Sunday, July 15 | Roy L. Whistler Room (Rectorate)**

16:30

### Opening Ceremony

- J. M. Pinto Paixão - Vice-Rector of the Universidade de Lisboa  
Z. Witczak – ICO President  
C. Brett – IUPAC Vice-President/President-Elect  
A. Soares da Silva - President of the Portuguese Chemical Society  
L. Carriço - Director of Faculdade de Ciências da Universidade de Lisboa  
Z. Barroso – Conselho de Escola, Faculdade de Ciências da Universidade de Lisboa  
F. Nicotra - President of IUPAC Division of Organic and Biomolecular Chemistry  
S. Williams – ICO Secretary  
H. Burrows – Editor of Pure and Applied Chemistry  
Z. Guo - Editor of Carbohydrate Research  
J. Jiménez-Barbero - Director CIC bioGUNE  
A. P. Rauter – President of Departamento de Química e Bioquímica and Chair of ICS2018

*Choir LACTVCVLAE VOCES*

*Portuguese composers: Joly Braga Santos, Miguel Jesus and Paulo Lourenço*

17:15

Roy L. Whistler International Award in Carbohydrate Chemistry

17:30

Roy L. Whistler International Award in Carbohydrate Chemistry Lecture  
*Chaired by Z. Witczak*

*R. Saccharides, Pseudosaccharides and their Mimetics*

**David Crich**

Department of Chemistry, Wayne State University, Michigan, USA

18:15

ICO Young Researcher Award

18:30

ICO Young Researcher Award Lecture  
*Chaired by A. P. Rauter*

*The antigen structural insights for engineering MUC1-glycopeptides that offer a new via in cancer-fighting*

**Nuria Martínez-Saéz**

Department of Chemical Biology and Drug Discovery, Utrecht University, The Netherlands

19:15 Concert | Symphonic Orchestra of the Higher School of Applied Arts – Castelo Branco Polytechnic Institute by Maestro Osvaldo Ferreira

20:00 Welcome Reception

**Monday, July 16**

**Roy L. Whistler Room (Rectorate)**

**Chair: M. Martin Lomas**

08:30 PL1 *Three Different Glycomimetic Drugs in Clinical Trials for Inflammatory Disease and Cancer*

**J. L. Magnani**

GlycoMimetics Inc, Research Department, USA

09:15 PL2 *Breaking the limits in investigating Glycan-Protein Interactions by using NMR*

**J. Jiménez-Barbero**

CIC bioGUNE, Spain

10:00 IL1 *Probing Specific Cell-Surface Heparan Sulfate-Protein Interactions*

**S.-C. Hung**

Genomics Research Center, Academia Sinica, Taiwan

10:30 Coffee Break

**Chair: R. Schmidt**

11:00 PL3 *Synthesis and Biological Studies of GPIS and GPI-Anchored Proteins*

**Z. Guo**

Department of Chemistry, University of Florida, USA

11:45 PL4 *Constrained glycomimetics of mucin antigens*

**C. Nativi**

Department of Chemistry, University of Florence, Italy

12:30 PL5 *Glycosciences and the Algae*

**R. Field**

Department of Biological Chemistry, John Innes Centre

13:15 Lunch

14:30 **POSTER SESSION 1**

## **PARALLEL SESSIONS**

**Horton Room (3.2.14) - FCUL  
SYNTHESIS**

**Chair: C. Galan**

15:30 IL5 *From Stereocontrolled Glycosylation to Automated Oligosaccharide Synthesis*

**A. V. Demchenko**

Department of Chemistry and Biochemistry, University of Missouri – St. Louis, USA

16:00 OC1 *Convergent Synthesis of N-Glycopeptides from Thioaspartic Acid-Containing Peptides*

**V. Wittmann**

Department of Chemistry, University of Konstanz, Germany

- 16:15 OC2 *Synthetic O-Antigens Related to Pathogenic Burkholderia Species Enable to decipher the Minimal Binding Epitopes*  
**C. Gauthier**  
INRS-Institut Armand-Frappier, Canada
- 16:30 OC3 *Semisynthesis of Complex-Type Biantennary Oligosaccharides Containing Lactosamine Repeating Units from a Biantennary Oligosaccharide Isolated a Natural Source*  
**Y. Maki**  
Department of Chemistry, Osaka University, Japan
- 16:45 OC4 *Chemical Synthesis of Glycopeptides and Glycoproteins Using Acyl-Thiol-Ene Mediated 'Click' Ligation*  
**E. Scanlan**  
Department of Chemistry, Trinity College Dublin, Ireland
- 17:00 Coffee Break
- Chair: L. Somsák**
- 17:30 IL6 *Unsaturated Sugar Synthons for Newer Chemical Glycosylations and Bioconjugations*  
**N. Jayaraman**  
Department of Organic Chemistry, Indian Institute of Science, India
- 18:00 OC5 *Reactivity and Stereoselectivity in Glycosylation: Emphasis on Structure of Glycosyl Acceptor and Concentration of Reagents*  
**L. O. Kononov**  
N.K. Kochetkov Laboratory of Carbohydrate Chemistry, N.D. Zelinsky Institute of Organic Chemistry, Russian Federation
- 18:15 OC6 *C-Glycosides in the Synthesis of the Phytotoxin Diplopyrone*  
**R. Giuliano**  
Department of Chemistry, Villanova University, USA

### Clark Room (3.2.15) - FCUL

#### CARBOHYDRATES FOR MEDICINE AND DIAGNOSIS

**Chair: J. Cañada, B. Ernst**

- 15:30 IL10 *Entirely Carbohydrate Immunogens for Anti-Tumor mAb Development*  
**P. Andreana**  
Department of Chemistry and Biochemistry, University of Toledo, USA
- 16:00 OC14 *Glycodendritic Systems as Tools in Biomedicine*  
**J. Ramos-Soriano**  
Instituto de Investigaciones Químicas (IIQ), cic-Cartuja, CSIC-Universidad de Sevilla, Spain
- 16:15 OC15 *A new approach to identifying fucosyltransferase inhibitors as potential cancer therapeutics*  
**D. Kwan**  
Department of Biology, Concordia University, Canada
- 16:30 OC16 *Recent Advances in the Synthesis and Biology of 2-Acetamido Iminosugars C-Glycosides*  
**Y. Blériot**  
Department of Chemistry, IC2MP, France
- 16:45 OC17 *Mechanistic Analysis on a UDP-Glucuronic Acid 4-Epimerase*  
**A. Borg**  
Institute of Biotechnology and Biochemical Engineering, Graz University of Technology, Austria
- 17:00 Coffee Break



**Chair: P. Kosma**

- 17:30 YIL1 *Multivalent Glycoconjugates: Galectin Ligands with a Therapeutic Potential*  
**P. Bojarova**  
Institute of Microbiology, Czech Academy of Sciences, Czech Republic
- 18:00 OC18 *Identification of Structural Modifications that Determines Diversity of Klebsiella Pneumoniae O1, O2, and O3 O-Antigens and Are Important for Future Monoclonal Antibody-Based Diagnostics and Therapy*  
**J. Lukasiewicz**  
Department of Immunochemistry, Ludwik Hirszfeld Institute of Immunology and Experimental Therapy, Polish Academy of Sciences, Poland
- 18:15 OC19 *Tuning the activities of iminosugars*  
**O. López**  
Department of Organic Chemistry, University of Seville, Spain
- 18:30 OC20 *Rational Design of New Glycosidase Inhibitors: Cyclic Sulfates as Conformational Traps to Selectively Inhibit Glycosidases*  
**M. Artola**  
Department of Bio-organic Synthesis (LIC), Leiden University, The Netherlands
- 18:45 FL1 *Investigating Exo-Glycals Reactivity - Recent Progress and Applications*  
**N. Pellegrini**  
Faculté des Sciences et Technologies, UMR 7053 L2CM

**Garegg Room (3.2.16) - FCUL  
SYNTHESIS**

**Chair: S. Oscarson**

- 15:30 IL15 *Gold-catalysed synthesis of giant oligosaccharides of mycobacterial cell wall*  
**S. Hotha**  
Indian Institute of Science Education and Research, Pune, India
- 16:00 OC29 *Exo-glycals: novel synthetic approaches and biochemical applications*  
**S. Vincent**  
Department of Chemistry, University of Namur, Belgium
- 16:15 OC30 *Modulating reactivity in cyclodextrins by radical C-H functionalization*  
**A. Martin**  
Departamento de Síntesis de Productos Naturales, Instituto de Productos Naturales y Agrobiología del CSIC, Spain
- 16:30 YIL2 *Structurally Innovative Nucleoside and Nucleotide Analogs of Potential Therapeutic Interest*  
**N. M. Xavier**  
Faculdade de Ciências, Universidade de Lisboa, Portugal
- 17:00 Coffee Break

**Chair: Y. Queneau**

- 17:30 OC31 *Synthesis of 1,5-Anhydro-D-glycero-D-gluco-heptitol Derivatives as Potential Inhibitors of Bacterial Heptose Biosynthetic Pathways*  
**M. Blaukopf**  
Department of Chemistry, University of Natural Resources and Life Sciences-Vienna, Austria
- 17:45 OC32 *Self-promoted Stereospecific N-Glycosylation*  
**C. Pedersen**  
Department of Chemistry, University of Copenhagen, Denmark
- 18:00 OC33 *DNA methyltransferase 1 inhibitors: design & synthesis based on transition state structure*

- 18:15 IL16 **F. Lamiable-Oulaidi**  
 Ferrier Research Institute, Victoria University of Wellington, New Zealand  
*Strategies for the synthesis of furanose containing molecules as useful tools in glycobiology*  
**C. Marino**  
 Department of Organic Chemistry, University of Buenos Aires, Argentina

**Lipták Room (3.2.13) - FCUL**  
**GLYCOINFORMATICS BRIDGING THE GAP**

**Chair: S. Perez**

- 15:30 IL20 *Glycomics@ExPASy: A web portal to explore the multiple facets of carbohydrates*  
**F. Lisacek**  
 Department of Proteome Informatics Group, SIB Swiss Institute of Bioinformatics, Switzerland
- 16:15 OC39 *Interaction between carbohydrate-based capping agents and gold nanoparticles: A theoretical perspective*  
**A. Franconetti**  
 Department of Chemistry, Universitat Autònoma de Barcelona, Spain
- 16:30 OC40 *Computational studies of carbohydrate active enzymes*  
**L. Masgrau-Fontanet**  
 Department of Chemistry, Universitat Autònoma de Barcelona, Spain
- 16:45 OC41 *Molecular modeling tools for Glyco-Research*  
**O. Grant**  
 Department of Complex Carbohydrate Research Center, University of Georgia, USA
- 17:00 Coffee Break

**Chair: M. Frank**

- 17:30 IL21 *Computational approaches to toll-like receptor 4 modulation*  
**S. Martin-Santamaria**  
 Department of Structural & Chemical Biology, Center for Biological Research CIB-CSIC, Spain
- 18:00 OC42 *Unusual catalytic itineraries of glycosidases unveiled from QM/MM metadynamics simulations*  
**C. Rovira**  
 Department of Inorganic and Organic Chemistry, University of Barcelona, Barcelona
- 18:15 OC43 *Furanose solution conformations: Insights from multiscale molecular simulations*  
**W. Plazinski**  
 Department of Adsorption, Institute of Catalysis and Surface Chemistry, Polish Academy of Sciences, Poland
- 18:30 OC44 *rapid methods for generating 3D structures of glycoproteins*  
**R. Woods**  
 Department of GA, University of Georgia, USA

**Ferrier Room (6.1.36) – FCUL**  
**BIOMOLECULE STRUCTURE**

**Chair: S. Sonnino,**

- 15:30 YIL4 *Structural Insights into mucin glycosylation and recognition*  
**F. Marcelo**

		Faculdade de Ciências e Tecnologia, Univ. Nova de Lisboa, Portugal
16:00	OC54	<i>Uniformly <sup>13</sup>C-labeled carbohydrates for probing carbohydrate-protein interactions by NMR spectroscopy</i> <b>G. Nestor</b> Department of Molecular Sciences, Swedish University of Agricultural Sciences, Sweden
16:15	OC55	<i>A secondary structure element in fucosylated glycoepitopes</i> <b>M. Schubert</b> Department of Biosciences, University of Salzburg, Austria
16:30	IL25	<i>Understanding specificity of chitin and peptidoglycan deacetylases: structure, function, and engineering</i> <b>A. Planas</b> Bioengineering Department, University Ramon Llull, Spain
17:00		Coffee Break
<b>Chair: J. M. Garcia Fernandez</b>		
17:30	IL26	<i>Molecular simulation of carbohydrate binding</i> <b>M. Frank</b> Biognos AB, Sweden
18:00	OC56	<i>Effect of human GBA2 pathogenic mutations on TxGH116 sugar binding and hydrolysis</i> <b>J. Cairns</b> Institute of Science, School of Chemistry, Suranaree University of Technology, Thailand
18:15	OC57	<i>Unraveling family 50 CBMs of clostridium thermocellum: structural-functional characterization of a new LYSM domain</i> <b>D. O. Ribeiro</b> Department of UCIBIO@REQUIMTE, FCT-NOVA, Portugal
18:30	OC58	<i>Structural and mechanistic basis for the O-acetylation of peptidoglycan by the virulence factors PatB of neisseria gonorrhoeae and OatA from both Staphylococcus aureus and Streptococcus pneumoniae.</i> <b>A. Clarke</b> Department of Molecular & Cellular Biology, University of Guelph, Canada
18:45	FL2	<i>Efficient enzymes for the production of sialic acids</i> <b>I. Røeder</b> Department of Chemistry, UiT-The Arctic University of Norway, Norway

**Zamojski Room (6.2.53) – FCUL  
GLYCOSCIENCES AND PERSONALIZED MEDICINE**

**Chair: S. Flitsch**

15:30	YIL6	<i>Fragment-based design of mammalian carbohydrate receptor ligands</i> <b>C. Rademacher</b> Department of Medicine Imperial College London, UK
16:00	OC64	<i>The unique polysialic acid binding property of human adenovirus 52 revealed by glycan microarray analysis - future implications</i> <b>Y. Liu</b> Department of Medicine, Imperial College London, UK
16:15	OC65	<i>Properties and Application of Hydroxyl Groups in Glycomimetics and Other Marketed Drugs</i> <b>J. Cramer</b> Department of Pharmaceutical Sciences, University of Basel, Switzerland

- 16:30 OC66 *Homogeneous antibody-drug conjugate preparation via glycan linkage*  
**S. Manabe**  
 Synthetic Cellular Chemistry Laboratory, RIKEN, Japan
- 16:45 IL31 *Polypeptide-galnac-transferases as prognostic and predictive cancer biomarkers*  
**E. Osinaga**  
 Laboratory of Glycobiology and Tumor Immunology, Institut Pasteur of Montevideo, Uruguay

17:15 Coffee Break

## ANALYSIS

Chair: M. Coimbra

- 17:45 OC67 *Analytical study of chondroitin sulfate in deer antler*  
**J. Tamura**  
 Department of Life & Environmental Agricultural Sciences, Tottori University, Japan
- 18:00 OC68 *NMR and chemometrics in the characterization of heterogeneous polysaccharide drugs*  
**N. Guerrini**  
 NMR Center, Istituto di Ricerche Chimiche e Biochimiche G. Ronzoni, Italy
- 18:15 OC69 *A fluorogenic probe for monitoring of thioglycosidase activity*  
**L. Betschart**  
 Department of Chemistry, UBC Vancouver, Canada

## Kochetkov Room (6.2.56) – FCUL

### VACCINES

Chair: V. Bencomo

- 15:30 IL33 *Glycoconjugate vaccines: Approaches for preparation and recent trends*  
**R. Adamo**  
 Department of Antigen Design, GSK Vaccines, Italy
- 16:00 OC80 *Synthesis and immunological evaluation of self-adjuvanting anticancer vaccine candidates using N-modified tri sialyl-Tn antigen*  
**K. Fukase**  
 Department of Chemistry, Graduate School of Science, Osaka University, Japan
- 16:15 OC81 *Next generation of glycoconjugate vaccines*  
**C. Pereira**  
 Department of Chemistry, Vaxxilon Deutschland GmbH, Germany
- 16:30 IL34 *Using NMR spectroscopy to facilitate the development and licensure of glycoconjugate vaccines*  
**N. Ravenscroft**  
 Department of Chemistry, University of Cape Town, South Africa
- 17:00 Coffee Break

Chair: M. Monteiro

- 17:30 OC82 *The induction of protective antibodies by a glycoconjugate vaccine to prevent francisella tularensis infection*  
**G. Stefanetti**  
 Department of Microbiology and Immunobiology, Harvard Medical School, USA
- 17:45 OC83 *A structural explanation of the importance of acetylation in Neisseria meningitidis serogroup A capsular polysaccharides to raise functional antibodies*

- P. Henriques**  
Department of Vaccine chemistry, GSK Vaccines, Italy
- 18:00 OC84 *Development of structurally defined immunostimulatory vaccine adjuvants*  
**P. Wang**  
Department of Chemistry, University of Alabama at Birmingham, USA
- 18:15 OC85 *Comparison of capsular polysaccharide conformations in Streptococcus group B serotype III and Streptococcus pneumoniae serotype 14: implications for immunogenicity.* **M. M. Kuttel**  
WESTERN CAPE , University of Cape Town , South Africa

**Lindberg Room (8.2.30) – FCUL  
GLYCOSYLATION AND DISEASE**

**Chair: C. Reis**

- 15:30 YIL8 *Sulfoglycolysis: Mechanistic and structural insights into a novel metabolic pathway*  
**E. Goddard-Borger**  
Department of Chemistry, University of Melbourne, Australia
- 16:00 OC93 *Macrocyclic peptide inhibitors of carbohydrate-active enzymes*  
**S. A. K. Jongkees**  
Department of Chemical Biology and Drug Discovery, Utrecht University, The Netherlands
- 16:15 OC94 *CD44-Glycoprofiling: Establishing the molecular basis for targeted therapeutics in bladder cancer*  
**R. Azevedo**  
Experimental Pathology and Therapeutics Group, Research Centre, Portuguese Institute of Oncology of Porto (IPO-Porto), Portugal
- 16:30 IL38 *Chemoenzymatically synthesized glycosphingolipids toward cancer therapy*  
**Y. Zhang**  
Department of Chemistry, Sorbonne University, France
- 17:00 Coffee Break

**INFLAMMATION AND  
DISEASE**

**Chair: S. Williams**

- 17:30 OC95 *sp<sup>2</sup>-iminosugar glycolipids as p38α MAPK activators: Drug candidates for diabetic retinopathy*  
**E. M. Sánchez-Fernández**  
Department of Organic, Faculty of Chemistry, University of Seville, Spain
- 17:45 OC96 *SIGLEC-8 - A promising target for asthma*  
**O. Schwardt**  
Department of Molecular Pharmacy, University of Basel, Switzerland
- 18:00 OC97 *Bacterial lectins as master manipulators of host cell physiology*  
**W. Römer**  
Faculty of Biology, University of Freiburg, Germany
- 18:15 OC98 *Conformational switch of the bacterial adhesin FIMH in the absence of the regulatory domain – Engineering a minimalistic allosteric system*  
**S. Rabbani**  
Department of Molecular Pharmacy, University of Basel, Switzerland
- 18:30 OC99 *Inhibition of O-glycan biosynthesis using hexosamine analogs*  
**S. Neelameghan**  
Department of Chemical & Biological Engineering, State University of New York-Buffalo, USA

**Paulsen Room (1.3.23) – FCUL  
GLYCOMATERIALS**

**Chair: Y. Ito**

- 15:30 IL42 *Polysaccharide engineering: Lateral and terminal modification*  
**B. Christensen**  
Department of Biotechnology and Food Science, NTNU-Norwegian University of Science and Technology, Norway
- 16:00 OC105 *Silica glyconanoparticles for nanomedicine*  
**C. Crucho**  
CQE, Instituto Superior Técnico, Universidade de Lisboa, Portugal
- 16:15 OC106 *Synthetically modified chitosan as efficient antimicrobial agents*  
**P. Sahariah**  
Faculty of Pharmaceutical Sciences, University of Iceland, Iceland
- 16:30 OC107 *Dissecting multivalent lectin-carbohydrate interactions using polyvalent multifunctional glycan-quantum dot*  
**Y. Guo**  
Department of Food Science and Nutrition, University of Leeds, UK
- 16:45 OC108 *D-Galactose derived beta-amino acids and their peptides: Synthesis and structural studies*  
**R. Estevez**  
Center for Research in Biological Chemistry and Molecular Materials, University of Santiago de Compostela, Spain
- 17:00 Coffee Break

**Chair: D. Gammon**

- 17:30 OC109 *Synthesis and properties of photoswitchable glycomacrocycles*  
**J. Xie**  
Department of chemistry, ENS Paris-Saclay, France
- 17:45 OC110 *Chemo-enzymatic synthesis of artificial xylan polysaccharides with defined substitution patterns*  
**F. Pfrengle**  
Department of Biomolecular Systems, Max Planck Institute of Colloids and Interfaces, Germany
- 18:00 FL15 *Polysaccharide Block Copolymers*  
**I. Mo**  
Department of Biotechnology and Food Science, Norwegian University of Science and Technology, Norway
- 18:05 FL16 *Optimisation of a Carbohydrate-Functionalised Collagen-based System for Ventral Mesencephalic Cells Delivery*  
**A. Rebelo**  
Centre for Research in Medical Devices (CURAM), National University of Ireland Galway, Ireland
- 18:10 FL17 *Smart hybrid glyco nanocarriers for theranostic*  
**E. Castanheira**  
Centro de Química-Física Molecular, Universidade de Lisboa, Portugal

- 18:15 OC111 *Structural insights on the mechanism of gelation of cellulose hydrogels by a combination of solution and solid state NMR*  
**J. C. Muñoz-García**  
 School of Pharmacy, University of East Anglia, UK
- 18:30 OC112 *Structural features and properties of high-molar mass dextrans bio-designed in vitro using enzymes*  
**A. Rolland-Sabaté**  
 UMR SQPOV, INRA, France

**Montreuil Room (8.2.47) – FCUL  
 CARBOHYDRATES AND NUTRITION**

**Chair: J. Defaye**

- 15:30 IL44 *Processes towards the production of human milk oligosaccharides*  
**M. J. Hederos**  
 Department of Downstream Process, Glycom R&D, Denmark
- 16:00 OC123 *Milk oligosaccharides as therapeutic agents*  
**A. Ranjan**  
 Department of chemistry, CMP COLLEGE, UNIVERSITY OF ALLAHABAD, India
- 16:15 OC124 *Deglycosylation of rutin with novel diglycosidase rutinosidase: Novel concept of “solid state biocatalysis”*  
**V. Kren**  
 Laboratory of Biotransformation, Institute of Microbiology of the Czech Academy of Sciences, Czech Republic
- 16:30 IL45 *Non-enzymatic transglycosylation reactions in foods: the example of honey, coffee, and starch*  
**M. Coimbra**  
 Department of chemistry, University of Aveiro, Portugal
- 17:00 Coffee Break

**SYNTHESIS**

**Chair: F. Bolaños**

- 17:30 OC125 *L-arabinofuranosylated probes for the analysis of novel L-arabinofuranosidases from Bifidobacterium longum*  
**A. Ishiwata**  
 Synthetic Cellular Chemistry Lab., RIKEN, Japan
- 17:45 OC126 *On the road to an organocatalytic approach to Neplanocin A: synthesis of rare sugars and glycomimetics*  
**D. Gamenara**  
 Organic Chemistry Department, Facultad de Química. Universidad de la República (UdelaR), Uruguay
- 18:00 FL21 *A hybrid approach to sialylated glycan synthesis: combination of automated solid-phase and enzymatic synthesis*  
**A. Pardo**  
 Biomolecular Systems, Max Planck Institute for Colloids and Interfases, Germany
- 18:05 FL22 *Length matters: one extra methylene group in glycosyl acceptor can dramatically change the reactivity pattern of glycosyl donor*  
**E. Stepanova**

Research School of Chemistry & Applied Biomedical Sciences, Tomsk Polytechnic University, Russian Federation

- 18:10 FL23 *Capturing the conformational behaviour and stereoselectivity of oxocarbenium ions*  
**T. Hansen**  
Leiden Institute of Chemistry, The Netherlands
- 18:15 OC127 *Intramolecular cine substitution on carbohydrates*  
**I. Perez-Martin**  
Síntesis de Productos Naturales, Instituto de Productos Naturales y Agrobiología, CSIC, Spain
- 18:30 FL24 *Shape-controlled gold nanoparticles functionalized with synthetic oligorhamnose of group a streptococcus*  
**O. Pitirollo**  
Department of chemistry, University of Milan, Italy
- 18:35 FL25 *Palladium-catalyzed stereoselective synthesis of deoxyglycosides*  
**A. Sau**  
School of Chemistry, University of Bristol, UK
- 18:40 FL26 *Synthesis of E. faecalis diheteroglycan oligosaccharides*  
**J. Enotarpi**  
LIC bio-organic synthesis, Leiden University, The Netherlands
- 18:45 FL27 *A novel synthetic approach toward diverse b-glyceroglycolipids based on a neighboring free 1,2-trans-selective glycosylation*  
**N. Yagami**  
Department of Applied Biorganic Chemistry, Gifu University, Japan



**Tuesday, July 17**

**Roy L. Whistler Room (Rectorate)**

**Chair: M. Chmielewski**

- 08:30 PL6 *N-glycans on proteins*  
**Y. Kajihara**  
Osaka University, Department of Chemistry, Japan
- 09:15 PL7 *Synthesis as an enabling technology for understanding bacterial glycan biosynthesis and function*  
**T. Lowary**  
Canadian Glycomic Network (GlycoNet), Univ. of Alberta, Canada
- 10:00 IL2 *Chemical Labeling and Quantitative Analysis of Protein O-GlcNAcylation*  
**X. Chen**  
College of Chemistry, Peking University, China
- 10:30 Coffee Break

**Chair: J. Jiménez Barbero**

- 11:00 PL8 *Carbohydrate-lectin interactions – what makes them unique?*  
**B. Ernst**  
Department of Pharmaceutical Sciences, University of Basel, Switzerland
- 11:45 PL9 *Taylor-made cyclodextrins for bio-inspired applications*  
**M. Sollogoub**  
IPCM, Sorbonne Université, France
- 12:30 PL10 *Optoglycomics: Photoswitchable Glycoconjugates to Explore Carbohydrate Recognition*  
**T. Lindhorst**  
Department of chemistry, Christiana Albertina University of Kiel, Germany
- 13:15 Lunch

**PARALLEL SESSIONS**

**Horton Room (3.2.14) - FCUL  
SYNTHESIS**

**Chair: V. Wittmann**

- 15:30 IL7 *Playing around with glycosylation: from strategy to green processes*  
**S. Castellón**  
Department of Química Analítica i Química Orgánica, University Rovira i Virgili, Spain
- 16:00 OC7 *Catalytic stereoselective synthesis of deoxyglycosides*  
**C. Galan**  
School of Chemistry, University of Bristol, UK
- 16:15 OC8 *Fe(acac)<sub>3</sub>, an Inexpensive and Green Catalyst for Regioselective Acylation of Carbohydrates*  
**H. Dong**  
School of Chemistry and Chemical Engineering, Huazhong University of Science and Technology, China
- 16:30 OC9 *De Novo Synthesis of Partially Fluorinated Carbohydrates*  
**T. Nokami**  
Department of Chemistry and Biotechnology, Tottori University, Japan
- 16:45 OC10

*Pyranoside-into-Furanoside rearrangement – winding road from side reaction to new synthetic method*

**V. B. Krylov**

The Laboratory of Glycoconjugate Chemistry, N.D. Zelinsky Institute of organic chemistry, RAS, Russian Federation

17:00 Coffee Break

**Chair: S. Castellón**

17:30 OC11 *Synthesis of polyfluorinated alfa-galactosyl ceramide analogues and biological implications*

**M. I. Matheu**

Analytical Chemistry and Organic Chemistry, University Rovira i Virgili, Spain

18:00 OC12 *Novel Methodologies in Sialylation Reactions*

**C. De Meo**

Department of Chemistry, Southern Illinois University Edwradsville, USA

18:15 OC13 *Design, synthesis and properties of shape-switchable glycomacrocycles*

**G. Despras**

Otto Diels Institute of Organic Chemistry, Christian Albrechts University, Germany

**Clark Room (3.2.15) - FCUL**

**CARBOHYDRATES FOR MEDICINE AND DIAGNOSIS**

**Chair: M. Sollogoub**

15:30 IL11 *Design, synthesis, and development of lectin ligand mimetics into the clinic*

**U. Nilsson**

Department of Chemistry, Centre for analysis and Synthesis, Sweden

16:00 OC21 *Reinvestigation of fine epitope specificity of EB-A2 antibody used in the immune detection of galactomannan of aspergillus fumigatus: molecular basis of false positive signals*

**N. E. Nifantiev**

Laboratory of Glycoconjugate Chemistry, N.D. Zelinsky Institute of organic chemistry, RAS, Russian Federation

16:15 OC22 *Synthetic Schistosoma mansoni glycan coated gold nanoparticles and their use in diagnostic and vaccine applications*

**M. Harvey**

Department of Bio-organic synthesis, Universiteit Leiden, The Netherlands

16:30 OC23 *Amadori rearrangement products as ligands for mannoside-specific lectins*

**T. M. Wrodnigg**

Institute of Organic Chemistry, Graz University of Technology, Austria

16:45 OC24 *Selective cell targeting by synergistic interactions of peptide and glycans*

**S. Nomura**

Biofunctional Synthetic Chemistry Laboratory, RIKEN, Japan

17:00 Coffee Break

**Chair: T. Lowary**

17:30 IL12 *Therapeutic in vivo synthetic chemistry*

**K. Tanaka**

Biofunctional Synthetic Chemistry Laboratory, RIKEN, Japan

18:00 OC25 *Towards catalytic antibiotics*

**A. A. Joseph**

Schulich Faculty of Chemistry, Technion- Israel Institute of Technology, Israel

18:15 OC26 *GPR55 Ligands: From Endocannabinoids to Lysolipids*

**P. Greimel**

- Brain Science Institute, RIKEN, Japan
- 18:30 OC27 *Glycosylations of Simple Acceptors with 2-O-Acyl L-Idose or L-Iduronic Acid Donors Reveal Only a Minor Role for Neighbouring Group Participation*  
**V. Ferro**  
School of Chemistry and Molecular Biosciences, The University of Queensland, Australia
- 18:45 OC28 *Multivalent glycomimetics with affinity and selectivity toward fucose-binding receptors from emerging pathogens*  
**D. Goyard**  
Department of molecular chemistry, CNRS/UGA, France

### Garegg Room (3.2.16) - FCUL SYNTHESIS

Chair: R. Field

- 15:30 IL17 *Epimerisations of glycosyl thiols and glycomimetic synthesis*  
**P. Murphy**  
National Univ. of Ireland, Ireland
- 16:00 OC34 *Boronic acid catalyzed regio- and 1,2-cis-stereoselective glycosylation of unprotected sugar acceptors via S<sub>N</sub>i-TYPE MECHANISM*  
**D. Takahashi**  
Applied Chemistry, Keio University, Japan
- 16:15 OC35 *Access to Synthetic Glycomes through Enzymatic Synthesis*  
**P. G. Wang**  
Department of Chemistry, Georgia State University, EUA
- 16:30 YIL3 *Dual Glycosylation: A Minimalist Approach for Oligosaccharide Synthesis*  
**X.-W. Liu**  
Nanyang Technological University, Singapore
- 17:00 Coffee Break

Chair: M. Brimble

- 17:30 OC36 *Mucin peptide microarrays in studies of protein-carbohydrate binding events*  
**U. Westerlind**  
Department of Chemistry, Umeå University/ Leibniz Institute for Analytical Sciences, Germany
- 17:45 OC37 *Modular synthesis of multifaceted cyclooligosaccharides based on trehalose building blocks*  
**J. L. Blanco**  
Department of Organic Chemistry, University of Seville, Spain
- 18:00 OC38 *Total Synthesis of O-GalNAcylated Antifreeze Glycoprotein Toward Elucidation of the Functional Role of O-GalNAcylation*  
**R. Okamoto**  
Department of Chemistry, Osaka University, Japan

### Lipták Room (3.2.13) - FCUL CARBOHYDRATE IN LIGNOCELLULOSIC BIOMASS VALORIZATION

Chair: J. Bordado

- 15:30 IL22 *Combined cavitation and enzymatic treatments for the valorization of lignocellulosic feedstock, from lab to pilot scale*  
**G. Cravotto**

- 16:15 OC45 Department of Drug Science and Technology, University of Turin, Italy  
*Novel assays for the measurement of glucuronyl esterase and  $\alpha$ -glucuronidase, two enzymes involved in lignin and hemicellulose hydrolysis*  
**D. Mangan**
- 16:30 OC46 Department of Research, Megazyme, Ireland  
*Development of a Chemical Platform for the production of added-value products from forest residues*  
**R. Galhano**  
 CERENA, IST, Portugal
- 16:45 OC47 *Modifying lignocellulose to enable valorization: how fungi do it*  
**I. van Munster**  
 School of Chemistry, University of Manchester, UK
- 17:00 Coffee Break

**Chair: L. Roseiro**

- 17:30 IL23 *Biotechnology of polysaccharides for biofuels and bio-based products*  
**F. Gírio**  
 LNEG - Laboratório Nacional de Energia e Geologia, IP, Portugal
- 18:00 OC48 *Synthesis of branched oligosaccharides related to the pectic rhamnogalacturonan I polysaccharide*  
**C. Romanò**  
 DTU Kemi, Denmark Technical University, Denmark
- 18:15 OC49 *Deep eutectic solvents as tools for fractionation and valorization of wood macromolecular components*  
**A. Lopes**  
 Department of chemistry, University of Aveiro/ciceco - Aveiro institute of materials, Portugal
- 18:30 OC50 *Valorization of aquatic biomass for the extraction of lignocellulosic polysaccharides*  
**M. Martínez-Sanz**  
 Food Safety and Preservation Department, Institute of Agrochemistry and Food Technology, Spain
- 18:45 OC51 *One-pot synthesis of nitrogen compounds from biomass resources*  
**A. C. Fernandes**  
 Department of chemistry, CQE, IST, Portugal

**Ferrier Room (6.1.36) – FCUL  
 BIOMOLECULE STRUCTURE**

**Chair: A. Planas**

- 15:30 YIL5 *Bacterial lectins as targets for diagnostics and therapy*  
**A. Titz**  
 Helmholtz Centre for Infection Research, German
- 16:00 IL27 *Structural biology of glycan-degrading enzymes from beneficial human gut microbe bifidobacteria*  
**S. Fushinobu**  
 Department of Biotechnology, The University of Tokyo, Japan
- 16:30 OC59 *Synthesis of I13Neu5Ac-[6-3HGal]Gg4-N3*  
**S. Sonnino**  
 Department of Medical Biotechnology and Translational Medicine, University of Milan, Italy

- 16:45 OC60 *Enabling Glycoscience Research with Improved Data Representation of Carbohydrates in the Protein Data Bank*  
**J. Young**  
RCSB Protein Data Bank, Rutgers, The State University of New Jersey, EUA
- 17:00 Coffee Break
- Chair: C. Maycock**
- 17:30 IL28 *Understanding the role of glycoconjugates as key molecules for cell survival and communication*  
**A. Silipo**  
University of Naples Federico II, Italy
- 18:00 OC61 *Selective recognition of O-methylated glycans by fungal tectonin, a defense effector*  
**A. Varrot**  
CERMAV, CNRS, France
- 18:15 OC62 *Sulfated polysaccharides of marine origin: new insights on structural features and biological properties*  
**U. Nadezhda**  
Laboratory of Glycoconjugate Chemistry, N.D. Zelinsky Institute of Organic Chemistry, Russian Federation
- 18:30 OC63 *Bacteriophage-like exopolysaccharide hydrolases control biophysical properties of biofilm in plant pathogens*  
**S. Barbirz**  
Physical Biochemistry, University of Potsdam, Germany
- 18:45 FL3 *Neisseria meningitidis a capsular polysaccharide and carbasugar mimetic: conformational studies*  
**I. Calloni**  
Chemical Glycobiology Lab, CIC bioGUNE, Spain

**Zamojski Room (6.2.53) – FCUL  
BIOMOLECULE STRUCTURE**

**Chair: O. Renaudet**

- 15:30 IL32 *Twisting tails and curious channels – the phosphoribosyltransferases*  
**E. Parker**  
Ferrier Research Institute, Victoria University of Wellington, New Zealand  
*What we can learn from multibladed beta-propeller lectins?*  
**M. Wimmerová**  
Masaryk University, Czech Republic
- 16:00 OC70
- GLYCANS**
- 16:15 OC71 *Click reactions in chitosan chemistry*  
**A. Kritchenkov**  
Laboratory of natural polymers, Institute of Macromolecular Compounds of Russian Academy of Sciences, Russian Federation
- 16:30 FL4 *Synthesis of complex type N-glycans*  
**S. Manabe**  
Department of Chemistry, Osaka University, Graduate School of Science, Japan
- 16:35 FL5 *Investigation of growth factor - glycosaminoglycan-mimetic marine exopolysaccharide interactions by atomic force microscopy*  
**A. Zykwinska**  
EM3B, Ifremer, France

- 16:40 FL6 *Synthesis, stability, reactivity, stereoselectivity and computational study of 4-thio furanosides*  
**J.M. Madern**  
Department of Bio-organic Synthesis, Leiden Institute of Chemistry, The Netherlands
- 16:45 OC72 *The role of core fucosylation on the dynamics of IgG1-type complex N-glycans: An MD study of sequence-to-structure relationship in complex carbohydrates*  
**E. Fadda**  
Department of Chemistry, Maynooth University, Ireland
- 17:00 OC73 *Doxorubicin and aclarubicin: shuffling antracyclin glycans for improved cytotoxic agents*  
**D. Wander**  
Department of Bio-Organic Synthesis, Leiden University, The Netherlands
- 17:15 Coffee Break
- Chair: P. Murphy**
- 17:45 OC74 *RN1, a novel galectin-3 inhibitor impedes pancreatic cancer cell growth in vitro and in vivo via blocking galectin-3/EGFR/ERK/Runx1 signaling pathway*  
**K. Ding**  
Shanghai Institute of Materia Medica, Chinese Academy of Sciences, China
- 18:00 OC75 *Chemical biology of plant cell wall glycans*  
**M. H. Clausen**  
Department of Chemistry, Technical University of Denmark, Denmark
- 18:15 OC76 *Solution and solid-phase automated synthesis of human milk oligosaccharides*  
**M. D. Bandara**  
Department of Chemistry and Biochemistry, University of Missouri St. Louis, USA
- 18:30 OC77 *Glyco-engineering: site-specific ligation of RBC glycocalyx with blood group antigen*  
**I.M. Ryzhov**  
Laboratory of carbohydrates, Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry of the Russian Academy of Sciences, Russian Federation

### Kochetkov Room (6.2.56) – FCUL VACCINES

**Chair: R. Adamo**

- 15:30 IL35 *Conjugate Vaccines from Synthetic and Bacterial Carbohydrates Using Squaric Acid Chemistry*  
**P. Kovac**  
NIDDK, LBC, National Institutes of Health, USA
- 16:00 OC86 *Divergent chemoenzymatic synthesis of shigella flexneri pentasaccharides for vaccine development*  
**L.-A. Barel**  
BSC, Institut Pasteur, France
- 16:15 OC87 *Capsular polysaccharides of streptococcus suis: potential as vaccine antigens*  
**G.-G. Desjardins**  
Faculty of Veterinary Medicine, University of Montreal, Canada
- 16:30 IL36 *Identification of immunologically protecting epitopes in heterogeneous microbial polysaccharides for the development of glycoconjugate vaccines*  
**S. Oscarson**  
Centre for Synthesis and Chemical Biology, University College Dublin, Ireland
- 17:00 Coffee Break

**Chair: K. Fukase**

- 17:30 IL37 *The design of a platform for a multi-valent diarrheal vaccine*  
**M. Monteiro**  
Department of Chemistry, University of Guelph, Canada
- 18:00 OC88 *Fluorinated Antigen-Mimetics For Glycoconjugate Vaccine Development*  
**A. H. Röder**  
Department of Chemistry, Ludwigs-Maximilian University, Germany
- 18:15 FL7 *Regioselective glycosylation of galactose and its application to the synthesis of group B Streptococcal capsular polysaccharide fragments*  
**L. Del Bino**  
Glycoconjugate Synthesis and Analytics Lab, GSK Vaccines, Italy
- 18:20 FL8 *Trifunctional mannoside conjugates to explore crosstalk between CLRS and TLRs and their effect on antigen presentation*  
**T. Hogervorst**  
Department of Bio-organic Synthesis, Leiden Institute of Chemistry, The Netherlands

**Lindberg Room (8.2.30) – FCUL  
GLYCOSYLATION AND DISEASE**

**Chair: A. Molinaro**

- 15:30 YIL9 *Sulfoglycolysis: Mechanistic and structural insights into a novel metabolic pathway*  
**J. Rodrigues**  
Department of Chemistry, University of Melbourne, Australia
- 16:00 OC100 *Complete Spatial Characterisation of N-Glycans in an Adult Rat Brain*  
**R. O'Flaherty**  
Leinster, NIBRT, Ireland
- 16:15 OC101 *Biology of NGLY1: Not just taking care of junks*  
**T. Suzuki**  
Glycometabolic Biochemistry Laboratory, RIKEN, Japan
- 16:30 IL39 *Glycosylation in cancer: molecular functions and clinical implications*  
**C. Reis**  
Glycobiology in Cancer, Ipatimup / i3S - University of Porto
- 17:00 Coffee Break

**Chair: P. Rudd**

- 17:30 IL40 *Sulfoglycolysis: Mechanistic and structural insights into a novel metabolic pathway*  
**S. Williams**  
Department of Chemistry, University of Melbourne, Australia
- 18:00 OC102 *Development of novel fluorescence-quenched probes for monitoring lysosomal glycosidase activity in live cells*  
**R. Ashmus**  
Department of Chemistry, Simon Fraser University, Canada
- 18:15 FL9 *The molecular and functional impact of oncogenic O-glycan truncation on CD44*  
**S. Mereiter**  
Glycobiology in Cancer, i3S/IPATIMUP - University of Porto, Portugal
- 18:20 FL10 *Glycosyl nitrates in synthesis: from selectively protected building blocks to oligosaccharides*  
**T. Wang**  
Chemistry and Biochemistry, University of Missouri-St. Louis, USA

- 18:25 FL11 *One-pot synthesis of pseudo-thiodisaccharides through aziridine opening reactions*  
**A. Tamburrini**  
 Department of Chemistry, Università degli Studi di Milano, Italy
- 18:30 OC103 *New aspect of glycosidase-catalyzed transglycosylation involving 1,2-anhydro sugar intermediate*  
**S. I. Shoda**  
 Department of Biomolecular Engineering, Tohoku University, Japan

**Paulsen Room (1.3.23) – FCUL  
 POLYSACCHARIDE BIOTECHNOLOGY**

**Chair: B. Christensen**

- 15:30 OC113 *Complexation of Alginates and Lactic Acid Bacteria Hetero-exopolysaccharides with Milk Proteins and Structural Analysis of Beta-lactoglobulin Binding Sites*  
**B. Svensson**  
 Department of Biotechnology and Biomedicine, Technical University of Denmark, Denmark
- 15:45 OC114 *Anti-metastatic properties of a marine bacterial exopolysaccharide-based derivative designed to mimic glycosaminoglycans*  
**S. Collic-Jouault**  
 RBE Ressources Biologiques et Environnement, Ifremer, France
- 16:00 OC115 *New laminarin-conjugates: Bioprotection and molecular tools to study penetration in plant leaves*  
**V. Ferrières**  
 ISCR, CORINT, Univ Rennes, ENSCR, ISCR, UMR CNRS 6226, France
- 16:15 OC116 *Product-oriented chemical surface modification of a levansucrase (SACB) via an ENE-type reaction*  
**J. Ertl**  
 Institute of organic chemistry, University of Würzburg, Germany
- 17:00 Coffee Break

**MARINE GLYCANS**

**Chair: T. Baasov**

- 17:30 IL43 *Marine-derived polysaccharides in hybrid building blocks for tissue engineering*  
**J. Mano**  
 CICECO - Dept. Chemistry, University of Aveiro, Portugal
- 18:00 OC118 *Chlamydomonas reinhardtii as a green microalgae to understand evolution of the N-glycosylation pathways in microalgae*  
**M. Bardor**  
 Glyco-MEV Lab, UNIROUEN, Normandie University, France
- 18:15 OC119 *Carrageenan catabolism is encoded by a complex regulon in marine heterotrophic bacteria*  
**E. Ficko-Blean**  
 CNRS/UPMC Roscoff Biological Research Station, France

**Montreuil Room (8.2.47) – FCUL  
 GUT MICROBIOTA**

**Chair: H. Overkleff**



- 15:30 IL46 *Prebiotic carbohydrate polymers from byproducts towards healthier gut microbiota*  
**M. Pintado**  
Department of Downstream Process, Glycom R&D, Denmark
- 16:00 OC128 *Surface exposed glycoside hydrolases of human gut bacteria conferring galactomannan dietary fibre catabolism*  
**H. Stalbrand**  
Department of Biochemistry and Struct. Biol., Lund university, Sweden
- 16:15 OC129 *Characterisation of exopolysaccharides produced by Lactobacillus fermentum LF2 and their potential applications as immune modulators*  
**A. Laws**  
Chemical Sciences, University of Huddersfield, UK
- 16:30 OC130 *Screening the human gut microbiome for carbohydrate modifying enzymes to generate universal donor blood*  
**P. Rahfeld**  
Department of chemistry, University of British Columbia, UK
- 16:45 OC131 *Gut microbiota lipopolysaccharides: reverting the concept from bad to good*  
**F. Di Lorenzo**  
Department of Chemical Sciences, University of Naples Federico II, Italy
- 17:00 Coffee Break
- Chair: H. Overkleeft**
- 17:30 OC132 *Characterization of novel lipooligosaccharide from gut symbiotic bacteria and chemical synthesis of its active principle lipid A*  
**A. Shimoyama**  
Department of Chemistry, Graduate School of Science, Osaka University, Japan
- 17:45 OC133 *Differential bacterial capture and transport preferences facilitate co-growth on dietary xylan in the human gut*  
**M. A. Hachem**  
Department of Biotechnology and Biomedicine, Technical University of Denmark, Denmark

## NATURAL GLYCOCONJUGATES

**Chair: A. French, L. Bento**

- 18:00 IL47 *Promiscuities in Sialic Acid Biosynthesis*  
**J. Voglmeir**  
College of Food Science and Technology, Nanjing Agricultural University, China
- 18:30 OC134 *The arabinofuranosidase CtAraf51: A versatile biocatalyst for the synthesis of novel glycofuranconjugates*  
**P. Quentin**  
*Automated Glycan Assembly of Lewis Antigens*
- 18:45 FL28 **M. Guberman**  
Biomolecular Systems Department, Max Planck Institute of Colloids and Interfaces, Germany

**Wednesday, July 18**

**Roy L. Whistler Room (Rectorate)**

**Chair: H. Kamerling**

- 08:30 PL11 *Exploring fungal and bacterial lectome: 1000 ways to bind your sugars*  
**A. Imberty**  
Centre de Recherches sur les Macromolécules Végétales (CERMAV), France
- 09:15 PL12 *Processing of O-mannosyl glycan and its pathological role in muscular dystrophy*  
**T. Endo**  
Tokyo Metropolitan Institute of Gerontology, Japan
- 10:00 IL3 *Multivalent neoglycoconjugates as tools to interfere with the immune system*  
**J. Rojo**  
Instituto de Investigaciones Químicas, CSIC Sevilla, Spain
- 10:30 Coffee Break

**Chair: S. Penadés**

- 11:00 PL13 *Challenges of machine-assisted carbohydrate synthesis and analysis*  
**N. Pohl**  
Joan and Marvin Carmack Chair, Indiana University Bloomington, Department of Chemistry, USA
- 11:45 PL14 *Re-engineering bacterial toxin lectins for synthetic glycobiology*  
**B. Turnbull**  
School of Chemistry-Univ. of Leeds,UK
- 12:30 Lunch
- 14:30 **POSTER SESSION 1**

## PARALLEL SESSIONS

### Horton Room (3.2.14) - FCUL SYNTHESIS

Chair: **E. Scanlan**

- 14:30 IL8 *Applications of organocatalysts in carbohydrate chemistry*  
**E. McGarrigle**  
School of Chemistry, University College Dublin, Ireland
- 15:00 IL9 *New syntheses and new effects of glycomimetics*  
**L. Somsák**  
Department of Organic Chemistry, University of Debrecen, Hungary

### Clark Room (3.2.15) - FCUL CARBOHYDRATES FOR MEDICINE AND DIAGNOSIS

Chair: **Y. Blériot**

- 14:30 IL13 *Synthesis and evaluation of fluorescent Trypanosoma cruzi GPI anchors in support of drug discovery for Chagas' disease*  
**I. Carvalho**  
Department of Pharmaceutical Sciences, University of Sao Paulo, Brazil
- 15:00 IL14 *Detecting live pathogens using carbohydrate-based metabolic probes*  
**B. Vauzeilles**  
ICMMO/ICSN, CNRS, France

**Garegg Room (3.2.16) - FCUL  
SYNTHESIS**

**Chair: N. Jayaraman**

- 14:30 II18 *Carbohydrates and fluorescent probes. New avenues in chemistry and glycochemistry*  
**A. Gomez**  
Department of Bio-Organic Chemistry, Instituto de Química Orgánica General, CSIC Madrid, Spain
- 15:00 II19 *Metal-free click ligations for the synthesis of multivalent sugars and iminosugars*  
**A. Marra**  
Institut des Biomolécules Max Mousseron, University of Montpellier, France

**Lipták Room (3.2.13) - FCUL  
SYNTHESIS**

**Chair: H. P. Wessel**

- 14:30 IL24 *Stereoselective Synthesis of Sugar Mimetics from Simple Monosaccharides*  
**S. Jarosz**  
Institute of Organic Chemistry, Polish Academy of Sciences, Poland
- 15:00 OC52 *Chemistry on protection and functionalization of free sugars*  
**C. C. Wang**  
Institute of Chemistry, Academia Sinica, Taiwan
- 15:15 OC53 *The acyloxyallylation of (un)protected tetroses revealing a pronounced diastereodivergence and a fundamental difference in the performance of the mediating metal*  
**C. Stanetty**  
Institute of Applied Synthesis, TU Wien, Austria

**Ferrier Room (6.1.36) – FCUL  
BIOMOLECULE STRUCTURE**

**Chair: C. Unverzagt**

- 14:30 IL29 *The use of fluoroproline in MUC1 antigen enables efficient detection of antibodies in patients with cancer*  
**F. Corzana**  
Department of Chemistry, University of La Rioja, Spain
- 15:00 IL30 *Amphiphiles in glycosciences: from biobased to biological chemistry*  
**Y. Queneau**  
ICBMS, University of Lyon, France

**Zamojski Room (6.2.53) – FCUL  
CARBOHYDRATES FOR MEDICINE AND DIAGNOSIS/BIOMOLECULE STRUCTURE**

**Chair: T. Feizi**

- 14:30 OC78 *First syntheses of 2-C-glucoopyranosyl pyrimidines*  
**E. Bokor**  
Department of Organic Chemistry, University of Debrecen, Hungary
- 14:45 YIL7 *Targeting protein-carbohydrate interactions in polysaccharide biodegradation: the power of carbohydrate microarrays*  
**A. Palma**  
Department of Chemistry, UCIBIO-NOVA University of Lisbon, Portugal
- 15:15 OC79 *Glycodendrimer array: an efficient tool to screen multivalent glycoconjugates towards lectins*

**E. Laigre**

Département de Chimie Moléculaire, Université Grenoble Alpes, France

**Kochetkov Room (6.2.56) – FCUL  
NATURAL GLYCOCONJUGATES**

**Chair: J. Vliegthart**

- 14:30 OC89 *Synthesis and Characterization of Homogeneous Glycosylphosphatidylinositol Anchored Glycoproteins*  
**D. Varon Silva**  
Biomolecular Systems, Max Planck Institute of Colloids and Interfaces, Germany
- 14:45 OC90 *Synthesis and immunomodulatory activities of glycoconjugates containing lysophosphatidyl inositol*  
**L.-A. Barel**  
Department of Chemistry, Keio University, Japan
- 15:00 OC91 *C-Mannosylation of Thrombospondin Repeats*  
**H. Bakker**  
Department of Clinical Biochemistry, Hannover Medical School, Germany
- 15:15 OC92 *Endomannosidase Triages Misfolded Glycoprotein in the Endoplasmic Reticulum*  
**K. Totani**  
Department of Materials and Life Science, Seikei University, Japan

**Lindberg Room (8.2.30) – FCUL  
SYNTHESIS**

**Chair: I. Maya**

- 14:30 IL41 *Glycosylation as a strategy for de-toxification of aminoglycoside antibiotics*  
**M. Fridman**  
School of Chemistry, Raymond and Beverly Sackler, Faculty of Exact Sciences, Tel Aviv University, Israel
- 15:00 OC104 *A novel method for the complete stereo-control of  $\alpha$ -sialylation*  
**H. Ando**  
G-CHAIN, Gifu University, Japan
- 15:15 FL12 *A new reaction of switchable ring contraction in selectively protected pyranosides with retention of aglycon*  
**P. Abronina**  
Laboratory of carbohydrates, N. D. Zelinsky Institute of Organic Chemistry of the Russian Academy of Sciences, Russian Federation
- 15:20 FL13 *A versatile approach to molecular design of monovalent and multivalent C-glycoconjugates as ligands of bacterial lectins*  
**F. Portier**  
Physicochemistry and self-assembly of glycopolymers, CERMAV-UGA, France
- 15:20 FL14 *Synthesis of secondary cell wall polymer fragments of *Paenibacillus ALVEI**  
**S. Krauter**  
Department of Chemistry, University of Natural Resources and Life Sciences Vienna, Austria

**Paulsen Room (1.3.23) – FCUL**  
**CARBOHYDRATES FOR MEDICINE AND DIAGNOSIS**

**Chair: C. Marino**

- 14:30 OC120 *The synthesis of multivalent glycodendrimers as anti-viral agents*  
**K. McReynolds**  
Department of Chemistry, California State University, Sacramento, USA  
*MUC1 glycopeptides recognition profiling by macrophage galactose lectin to target dendritic cells*
- 14:45 OC121 **F. Garcia-Martin**  
Faculty of Advanced Life Science, Hokkaido University, Japan
- 15:00 FL18 *Synthesis of well-defined teichoic acids fragments and their evaluation through microarray technology*  
**F. Berni**  
Leiden Institute of Chemistry, University of Leiden, The Netherlands  
*Recent development in glyco-rgd conjugates: synthesis, biological evaluation and pet application*
- 15:05 FL19 **S. Lamandé-Langle**  
Faculté des Sciences et Technologies, UMR 7053 L2CM, France
- 15:10 FL20 *Nanomolar inhibition of human OGA by 2-acetamido-2-deoxy-D-glucono-1,5-lactone hydrazone derivatives*  
**M. Kiss**  
Department of Organic Chemistry, University of Debrecen, Hungary

**TCI CHEMICALS**

- 15:15 OC122 *Très sets; Glycan, Enzyme, Binding protein. TCI boosts Glycoscience research by the unique reagents*  
**N. Yuasa**  
Department of Glycotec, Tokyo Chemical Industry, Japan

**Montreuil Room (8.2.47) – FCUL**  
**SYNTHESIS**

**Chair:P. Kovac**

- 14:30 IL48 *Enzyme Transition State Analysis and Inhibitor Design*  
**P. Tyler**  
Ferrier Research Institute, Victoria University of Wellington, New Zealand
- 15:00 IL49 *Glycoside hydrolases as efficient biocatalysts: from fundamental research to cosmetic applications*  
**R. Daniellou**
- 15:30 FL29 *Synthesis and structural study of glycosylphosphatidyl-inositols fragments in monolayers*  
**D. Willén**  
Max Planck Institute of Colloids and Interfaces, Germany
- FL30 *C-Type lectin targeting with glycomimetics: a screening in microarray-format*  
**L. Medve**  
University of Milan, Italy

- FL31 *Structural insight into mannuronic acid specificity of a polysaccharide Lyase family 6 alginate lyase from human gut Bacteroides*  
**E. Stender**  
Technical University of Denmark, Denmark

## Thursday, July 19

### Roy L. Whistler Room (Rectorate)

Chair: F. Nicotra

- 08:30 PL15 *Synthetic carbohydrate materials*  
**P. Seeberger**  
Max Planck Institute of Colloids and Interfaces, Germany
- 09:15 PL16 *Chemical Biology Tools to Perceive and Perturb Glycans and Carbohydrate Processing Enzymes in Living Systems*  
**D. Vocadlo**  
Department of Chemistry and Molecular Biology & Biochemistry, Simon Fraser University, Canada
- 10:00 IL4 *Synthesis of bioactive glycopeptides and neoglycopeptides using solid phase peptide synthesis, native chemical ligation, click chemistry and enzymatic glycosylation*  
**M. Brimble**  
Department of Chemistry, University of Auckland, New Zealand
- 10:30 Coffee Break

Chair: N. Nifantiev

- 11:00 PL17 *Deciphering the Glycoproteome: a step towards understanding the complexity of biological systems*  
**P. Rudd**  
National Institute for Bioprocessing, Research and Training and University College, Dublin, Ireland
- 11:45 PL18 *Bacterial higher-carbon sugars-key compounds in immune recognition*  
**P. Kosma**  
Universität für Bodenkultur Wien, Division of Organic Chemistry, Austria
- 12:30 PL19 *On Phosphates and Sugars*  
**G. Marel**  
Leiden Institute of Chemistry, Leiden University, The Netherlands
- 13:15 Lunch
- 14:30 **POSTER SESSION 3**

## VACCINES

Chair: P. Seeberger

- 15:30 IL50 *Enhancing Antigenicity of Synthetic Saccharide-Based Antigens by Targeting Fcγ<sub>3</sub> Receptors*  
**S. Suchek**  
Department of Chemistry and Biochemistry, University of Toledo, USA
- 16:00 YIL10 *Glycans in diagnostics and vaccines*  
**G. Bernardes**  
IMM, Faculdade de Medicina, Univ. de Lisboa, Portugal & Dep. of Chemistry- Univ. of Cambridge, UK
- 16:30 IL51 *Synthetic carbohydrate-based conjugates as promising vaccine candidates against Shigella: from concept to first-in-human study*  
**L. Mulard**  
Department of Chemistry of Biomolecules, Institut Pasteur, France

