# SCF Chemical Biology Symposium 2024

# Chemistry meets Biology

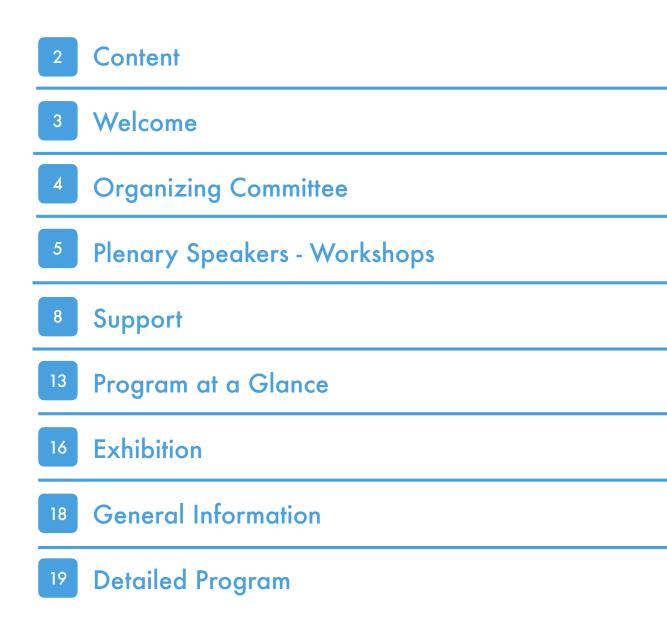
A meeting organized by SCF-ChemBio at the frontiers between Chemistry and Biology

# en 2024 JANUARY 24-26, 2024 ON THE CAMPUS OF UNIVERSITÉ PARIS SACLAY **BÂTIMENT HENRI MOISSAN** Program

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# CONTENT



# WELCOME

It is our great pleasure to warmly welcome you in Paris-Saclay for this inaugural edition of the SCF Chemical Biology Symposium, ChemBio2024, the first in-person event organized by the Chemical Biology Division of the French Chemical Society, SCF-ChemBio.

Founded in January 2020 as a Thematic Group of the French Chemical Society, SCF-ChemBio organized three virtual events during the pandemic, established a Young Researcher Award, and more recently, also a PhD Thesis Award that will be attributed during the symposium. In June 2023, SCF-ChemBio became a Transversal Division, and we are thrilled to celebrate this development with the organization of the SCF Chemical Biology Symposium on the beautiful campus of Université Paris-Saclay, for which almost 300 attendees are expected.

We elaborated an attractive program featuring a superb lineup of 12 plenary speakers from the French, European and overseas communities, covering a wide spectrum of research in modern chemical biology, targeting biomolecules such as glycans, nucleic acids, proteins and peptides, involving metals in living systems and encompassing technologies and methodologies such as bioorthogonal chemistry, degraders, photocontrol, fluorescent probes, click-to-release, and high throughput screening. A special session will be dedicated to industrial research and collaborative research between industry and academia. Two workshops will be organized during lunch breaks: one focused on funding, and another on publishing chemical biology research. From a diverse pool of high-quality submissions, we have selected 17 oral communications and 9 short communications. And please do not miss our two evening social events, during which more than 90 posters will be presented.

We are very thankful to Université Paris-Saclay for hosting this symposium in the brand-new Henri Moissan Building. With more than 48,000 students, including 4,600 PhD students, more 275 laboratories and 500 experimental platforms, Université Paris-Saclay represents 13% of French Research. It holds the prestigious position of the first French University and the leading University outside of USA and UK, according to the Shanghai Ranking. We thank the University and its faculties, interdisciplinary objects and laboratories for hosting and supporting us.

A special acknowledgment goes to all our sponsors – both institutional and industrial. We are convinced that this event will be rewarding for our many exhibitors.

While the schedule is dense, we believe that you will enjoy this event and the many opportunities it presents for interactions, discussions, creating connections to foster creativity and develop new ideas.

We are convinced that Chemical Biology will continue to grow as an established and productive scientific field. We hope ChemBio2024 will represent a milestone on the way to this promising future.

Enjoy!

#### The Organizing Committee - ChemBio2024

Organized by



CHEMBIO 2024 PROGRAM | JANUARY 24-26, 2024.

# ORGANIZING COMMITTEE



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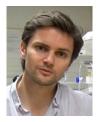
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#### Yung-Sing Wong

BUREAU DE LA DIVISION DE CHEMOBIOLOGIE DE LA SCF

Université Grenoble Alpes, Grenoble, France

# PLENARY SPEAKERS - WORKSHOPS



#### Wesley Blackaby

Institut de Recherche & Développement Servier Paris-Saclay, France

PI1 "Chemical Biology applications and collaborations at Servier"





European Research Council Executive Agency, Belgium

W1 "ERC Individual and Synergy Grants"

Gilles Guichard

Université de Bordeaux, France

PL5 "Protein Structure Mimics to Disrupt

Protein Interactions"





#### Michal Hocek

IOCB Prague and Charles University, Czech Republic

PL7 "Base-Modified or Hypermodified Nucleic Acids for Chemical Biology"



#### Andrey Klymchenko

Université de Strasbourg, France

PL1 "Fluorescent molecular and supramolecular probes for biosensing and bioimaging"





University of Texas Southwestern Medical Center, United States

PL3 "Fucosylated receptors for cholera toxin"



#### José Luis Mascareñas

Universidade de Santiago de Compostela, Spain

PL4 "Metal-Mediated Abiotic Reactions in Biological Environments"





#### Kirsten McAulay

University of Dundee, Scotland, United Kingdom

PI2 "It's degrading. Learnings from a screening campaign."

#### Ruben Ragg

Chemistry Europe, Weinheim, Germany

W2 "Getting Published in 2024 and Beyond: How to Adapt to a Rapidly Changing Publication Landscape"











### Andrea Rentmeister

University of Münster, Germany

PL2 "Harnessing the Power of Click Chemistry and Light to Unlock the Secrets of mRNA"

#### Marc Robillard

Tagworks Pharmaceuticals, The <u>Netherlands</u>

PI3 "Click-to-Release: from on-target activation to off-target deactivation"

#### Sandrine Sagan

Sorbonne Université, Paris, France

PL8 "Ins and outs of bio-inspired peptidebased delivery systems – A journey with cell-penetrating peptides"

#### Olalla Vázquez

Marburg University, Germany

PL6 "Light & Peptides – Triggering Biological Responses"

#### David Vocadlo

Simon Fraser University, Canada

PL9 "Chemical biology tools for probing and perturbing carbohydrate processing enzymes in mammalian systems"



# European Chemical Society

EuChemS, the European Chemical Society, aims to nurture a platform for scientific discussion and to provide a single, unbiased European voice on key policy issues in chemistry and related fields.

Representing more than 160,000 chemists from more than 40 Member Societies and other chemistry related organisations, EuChemS relies on a unique network of active researchers involved in all the fields of chemistry. Through this network, EuChemS organises several specialised academic conferences as well as the biannual EuChemS Chemistry Congress, the European congress of chemical sciences. EuChemS also promotes the role and image of the chemical sciences among the general public and policy-makers through social media, newsletters and through the organisation of conferences and workshops open to the society.

Through the promotion of chemistry and by providing expert and scientific advice, EuChemS aims to take part of the solution to today's major societal challenges.

For more information about the European Chemical Society (EuChemS), please visit www.euchems.eu or contact us at:

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Email: secretariat@euchems.eu

fi http://on.fb.me/1B8Qa0n

<u>https://twitter.com/EuCheMS</u>

#### **EFMC**



**MedChemBioWatch** 



# SUPPORT

**EuChemS recognized event** 



**EFMC sponsored event** 



## **ERC and ICBS supported event**



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# **Exhibitors**



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# **Exhibitors**





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# PROGRAM AT A GLANCE

#### Wednesday, January 24, 2024

- 12h00 E Registration
- 13h00 Opening ceremony
- 13h20 PL1 Andrey KLYMCHENKO
- 14h05 SC1 Alejandra VALE GOMEZ
- 14h20 SC2 Ander MAGUREGUI
- 14h35 SC3 Lina EL HAJJI
- 14h50 OC1 Richard WOMBACHER
- 15h10 OC2 Maria DUCA
- 15h30 OC3 Chayasith UTTAMAPINANT
- 15h50 Exhibitor presentation (7 x 3 min) EX1-7
- 16h15 🖑 Coffee break
- 16h45 OC4 Célia BONNET
- 17h05 OC5 Cliff STAINS
- 17h25 OC6 Sarah HOSTACHY
- 17h45 PL2 Andrea RENTMEISTER Chemistry Europe Lecture
- 18h30 A Poster Session (odd numbers) and Wine and Cheese
- 20h30 End of Day

**PROGRAM AT A GLANCE** 

#### Thursday, January 25, 2024

- 8h45 PL3 Jennifer KOHLER
- 9h30 OC7 Sébastien DEPIENNE SCF ChemBio PhD Thesis Award
- 9h50 OC8 David BONNAFFE
- 10h10 OC9 Astrid WALRANT
- 10h30 OC10 Rémi PELLETIER
- 10h50 Ö Coffee break
- 11h15 PL4 José Luis MASCARENAS
- 12h00 PL5 Gilles GUICHARD
- 12h45 II Lunch
- 13h45 W1 Workshop ERC Christine COURILLON
- 14h40 PI1 Wesley BLACKABY
- 15h10 PI2 Kirsten McAULAY
- 15h40 PI3 Marc ROBILLARD
- 16h10 🖑 Coffee break
- 16h40 Exhibitor presentation (7 x 3 min) EX8-14
- 17h05 SC4 Morgane BAUDOIN
- 17h20 SC5 Alvaro LOPEZ-SANCHEZ
- 17h35 SC6 Clémence SIMON
- 17h50 PL6 Olalla VAZQUEZ ICBS Lecture
- 18h35 Dester Session (even numbers) and Beer and Charcuterie
- 20h35 End of Day

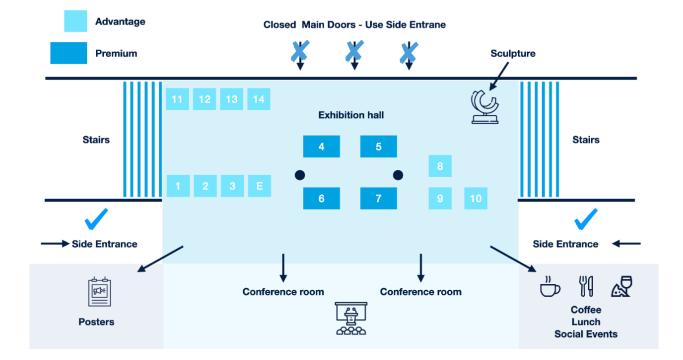
#### Friday, January 26, 2024

- 8h45 PL7 Michal HOCEK
- 9h30 OC11 Sandrine PIGUEL
- 9h50 OC12 Sebastien VIDAL
- 10h10 OC13 Marie-Edith GOURDEL
- 10h30 OC14 Carlo PIFFERI
- 10h50 🖑 Coffee break
- 11h15 SC7 Eléonore TACKE
- 11h30 SC8 Andreas WIEST
- 11h45 SC9 Julie GILBERT
- 12h00 PL8 Sandrine SAGAN
- 12h45 Lunch
- 13h45 W2 Workshop Chemistry Europe Ruben RAGG
- 14h25 OC15 Thais GAZZI
- 14h45 OC16 Kevin RENAULT
- 15h05 OC17 Erica BENEDETTI
- 15h25 PL9 David VOCADLO
- 16h10 Closing ceremony and Awards Poster Awards : Hybrigenics Service - ACS Chemical Biology - RSC Chemical Biology RSC Medicinal Chemistry - RSC Pharmaceutics Short Communication Award : ICSN
- 16h30 End of the congress

# EXHIBITION

#### Please visit our exhibitors in the exhibition hall

Opening hours of the Exhibition Wednesday January 24th 13h00 - 20h00 Thursday January 25th 09h00 - 20h00 Friday January 26th 09h00 - 13h00



#### **EXHIBITORS**

- 1. HUBER
- 2. KNF
- 3. OXELTIS
- E. EUROGENTEC
- 4. PMC ISOCHEM
- 5. MAGRITEK
- 6. ABCR
- 7. AVANTOR

8. MEDCHEM EXPRESS	12.CDD VAULT
9. ENAMINE	13. JASCO
10. CLOUP	14. SHIMADZU

11. ADVION INTERCHIM

# **POSTER SESSIONS & SOCIAL EVENTS**

Do not miss our two poster sessions, with more than 90 poster !!!

In order to favor networking and discussions, during poster presentations, you will have the opportunity to enjoy Wine and Cheese (January 24th) and Beer and Charcuterie (January 25th). If you prefer, Vegetables and Juices will also be served.





# **GENERAL INFORMATION**

The event will be held at Bâtiment Henri Moissan - Université Paris-Saclay.

#### **COFFEE BREAKS - LUNCHES - SOCIAL EVENTS**

Coffee breaks, lunches, « wine and cheese » and » beer and charcuterie » will be served at the time scheduled in the programme in the main Hall of Bâtiment Henri Moissan.

#### **ORAL SESSIONS**

You must arrive 15 min before your session starts. You will not be able to use your personal computer. You will be using an available computer. PPT or PDF files will be accepted. In case you are using a PPT file, please prepare also a PDF file as a backup. Please use a 16/9 slide format.

Oral communications: 15 minutes STRICT presentation time, followed by up to 5 minutes for discussion. (Orange light = 3 minutes left)

Short communications: 10 minutes STRICT presentation time, followed by up to 5 minutes for discussion. (Orange light = 2 minutes left)

Please follow the indications of the color light

- You are in the first 80% of your presentation time
- You reached the last 20% of your presentation time
- Your presentation time is over
- Discussion time

#### **POSTER SESSIONS**

Two poster sessions will be organized. You will be assigned a panel number. Please hang your poster on the panel with the corresponding number. Each panel will measure 100 cm in width and 240 cm in hight (portrait orientation). Your poster should ideally be printed as an A0 format (height 118.9 x width 84.1 cm). A fastening system will be provided, but please ensure that your poster is not too heavy, and avoid plastic or cardboard sheets. If you are presenting your poster in Session 1 (January 24, odd numbers), please remove your poster as soon as Session 1 is over, so that attendees presenting in Session 2 (January 25, even numbers) can hang their posters. Please respect your assigned session and remain close to your poster throughout the session, to be available for questions.

#### **INTERNET**

Wireless internet will be available for attendees.



## Wednesday, January 24, 2024 - 1/2

12h00	Registration
13h00 - 13h20	Opening ceremony
13h20 - 14h05	Chairs: Florence MAHUTEAU-BETZER / Sébastien GOUIN PL1   Andrey KLYMCHENKO - Université de Strasbourg, France Fluorescent molecular and supramolecular probes for biosensing and bioimaging
14h05 - 14h20	Short communications SC1   Alejandra VALE GOMEZ - University of Santiago de Compostela, Spain Intracellular uncaging of drugs by the combined action of metal catalysts and enzymes
14h20 - 14h35	SC2   Ander MAGUREGUI - University of Edinburgh, United Kingdom Metabolic Glycan Cell-Labelling for Tracking T-cell Infiltration and Activation within a Glioblastoma Multiform Tumour Model
14h35 - 14h50	<b>SC3</b> I <b>Lina EL HAJJI</b> - Sorbonne Université, Paris, France Engineering near-infrared fluorescent chemogenetic reporters for imaging and sensing processes in living cells and organisms
14h50 - 15h10	Chairs: Chair: Anne IMBERTY / Michael SMIETANA Oral communications OC1   Richard WOMBACHER - Max-Planck-Institute for Medical Research, Heidelberg, Germany A chemical inducer of proximity to control protein networks in vivo
15h10 - 15h30	<b>OC2</b> I <b>Maria DUCA</b> - Université Côte d'Azur, Nice, France Design and synthesis of original chemical probes for the validation of type I toxin-antitoxin systems as antimicrobial targets
15h30 - 15h50	<b>OC3</b> I <b>Chayasith UTTAMAPINANT</b> - Institute of Science and Technology, Rayong, Thailand Engineering sustainable resources for CRISPR-based diagnosis of infectious diseases
15h50 - 16h15	Chair: Marie LOPEZ EX1-7   Exhibitor presentation (7 x 3 min) -
16h15 - 16h45	Coffee break

# Wednesday, January 24, 2024 - 2/2

16h45 - 17h05	Chairs: Chairs: Dominique URBAN / Wadih GHATTAS Oral communications OC4   Célia BONNET - Centre de Biophysique Moléculaire, CNRS - Orléans, France Zinc detection by Magnetic Resonance Imaging: from rational design to in vivo applications
17h05 - 17h25	<b>OC5</b> I <b>Cliff STAINS</b> - University of Virginia, Charlottesville, United States Improved Dyes for Near-Infrared Fluorescence and Photoacoustic Imaging Applications
17h25 - 17h45	<b>OC6</b> I <b>Sarah HOSTACHY</b> - Université Grenoble Alpes, Grenoble, France Chemical biology approaches to investigate metal-protein interactions
17h45 - 18h30	Chair: Ruben RAGG PL2   Andrea RENTMEISTER - Chemistry Europe Lecture - University of Münster, Germany Harnessing the Power of Click Chemistry and Light to Unlock the Secrets of mRNA
18h30 - 20h30	PO1 I Represent the Poster Session (odd numbers) and Wine and Cheese (and Vegetables and Juices)
20h30	End of Day



# Thursday, January 25, 2024 - 1/2

8h45 - 9h30	Chairs: Dominique GUIANVARC'H / Arnaud CHEVALIER PL3   Jennifer KOHLER - University of Texas Southwestern Medical Center, United States Fucosylated receptors for cholera toxin
9h30 - 9h50	Oral communications OC7   Sébastien DEPIENNE - SCF-ChemBio PhD Thesis Award - Nantes Université, France Development of a tyrosine-selective electro-bioconjugation methodology to label proteins and cell surfaces
9h50 - 10h10	<b>OC8</b>   <b>David BONNAFFE</b> - Université Paris-Saclay, Orsay, France Aqueous "repairing conditions" thiol-ene for late stage functionnalization of synthetic oligosaccharides to decipher HIV-gp120/polyanion interactions
10h10 - 10h30	<b>OC9</b>   <b>Astrid WALRANT</b> - Sorbonne Université, Paris, France Structural bases for the involvement of PI(4,5)P2 in the internalization of the cell-penetrating peptide Penetratin
10h30 - 10h50	<b>OC10</b>   <b>Rémi PELLETIER</b> - Université de Strasbourg, France Fluorogenic dimers as bright switchable probes for membrane imaging
10h50 - 11h15	Coffee break
11h15 - 12h00	Chairs: Agnès DELMAS / András KOTSCHY PL4   José Luis MASCARENAS - Universidade de Santiago de Compostela, Spain Metal-Mediated Abiotic Reactions in Biological Environments
12h00 - 12h45	PL5 I Gilles GUICHARD - Université de Bordeaux, France Protein Structure Mimics to Disrupt Protein Interactions
12h45 - 14h40	Ul Lunch
13h45 - 14h30	Chairs: Delphine JOSEPH / Frédéric TARAN W1   Workshop - ERC - Christine COURILLON - European Research Council Executive Agency, Belgium ERC Individual and Synergy Grants
14h40 - 15h10	Industrial session PI1   Wesley BLACKABY - Institut de Recherche & Développement Servier Paris-Saclay, France Chemical Biology applications and collaborations at Servier
15h10 - 15h40	PI2   Kirsten McAULAY - University of Dundee, Scotland, United Kingdom It's degrading. Learnings from a screening campaign
15h40 - 16h10	<b>PI3</b>   <b>Marc ROBILLARD</b> - Tagworks Pharmaceuticals, The Netherlands Click-to-Release: from on-target activation to off-target deactivation
16h10 - 16h40	Coffee break

# Thursday, January 25, 2024 - 2/2

16h40 - 17h05	Chair: Yung-Sing WONG Exhibitor presentation (7 x 3 min) - EX8-14
17h05 - 17h20	Chairs: Sébastien PAPOT / Yves BLÉRIOT Short communications SC4   Morgane BAUDOIN - Université Grenoble Alpes, Grenoble, France Cross–links in the bacterial cell wall of Streptococcus pneumoniae by incorporation of precursors of peptidoglycan and teichoic acids
17h20 - 17h35	SC5   Alvaro LOPEZ-SANCHEZ - Sorbonne Université, Paris, France Development of dual-action Pt(IV)-Mn(II) prodrugs for enhanced antitumor activity and reduced neurotoxicity
17h35 - 17h50	<b>SC6   Clémence SIMON</b> - Université de Lille, France Organelle-specific photoactivation combined with isotope labeling to follow phosphatidylethanolamine metabolism
17h50 - 18h35	PL6   Olalla VAZQUEZ - ICBS Lecture - Marburg University, Germany Light & Peptides – Triggering Biological Response
18h35 - 20h35	PO2 I Poster Session (even numbers) and Beer and Charcuterie (and Vegetables and Juices)
20h35	End of Dav



# Friday, January 26, 2024 - 1/2

8h45 - 9h30	Chairs: Daniela VERGA / Marie LOPEZ PL7   Michal HOCEK - IOCB Prague and Charles University, Czech Republic Base-Modified or Hypermodified Nucleic Acids for Chemical Biology
9h30 - 9h50	Oral communications OC11   Sandrine PIGUEL - Université Paris-Saclay, Orsay, France Photopharmacology and cancer: towards light-controlled small molecules inhibitors targeting TAM kinase
9h50 - 10h10	OC12   Sebastien VIDAL - Institut de Chimie des Substances Naturelles, CNRS - Gif-sur-Yvette, France A general strategy to the intracellular sensing of glycosidases using AIE-based glycoclusters
10h10 - 10h30	<b>OC13</b>   <b>Marie-Edith GOURDEL</b> - Hybrigenics Services - Evry-Coucouronnes, France Unraveling the proteome and ubiquitin pathways by chemically induced proximity
10h30 - 10h50	<b>OC14</b>   <b>Carlo PIFFERI</b> - Centre de Biophysique Moléculaire, CNRS - Orléans, France <i>N-terminal cysteine as minimalistic handle for dual, site-selective bioconjugation: case study on an anti-HER2 affibody</i>
10h50 - 11h15	Coffee break
11h15 - 11h30	Chairs: Pierre-Yves RENARD / Elisabetta MILEO Short communications SC7 I Eléonore TACKE - Institut de Chimie des Substances Naturelles, CNRS - Gif-sur-Yvette, France Unprecedented perspectives on the application of CinNapht fluorophores obtained by a "late- stage" functionalization strategy
11h30 - 11h45	<b>SC8</b>   <b>Andreas WIEST</b> - Ludwig-Maximilians-Universität - Munich, Germany <i>Cu-catalyzed azide-alkyne-thiol reaction forms ubiquitous background in chemical proteomic</i> <i>studies</i>
11h45 - 12h00	SC9   Julie GILBERT - Université de Montpellier, France Multifunctional inhibitors to target epigenetic mechanisms involved in cancer
12h00 - 12h45	<b>PL8</b>   <b>Sandrine SAGAN</b> - Sorbonne Université, Paris, France Ins and outs of bio-inspired peptide-based delivery systems – A journey with cell-penetrating peptides
12h45 - 14h25	U Lunch

# Friday, January 26, 2024 - 2/2

13h45 - 14h15	<i>Chairs: Nadège LUBIN-GERMAIN / Kévin CARIOU</i> W2   Workshop - Chemistry Europe - Ruben RAGG - Chemistry Europe, Weinheim, Germany <i>Getting Published in 2024 and Beyond: How to Adapt to a Rapidly Changing Publication</i> <i>Landscape</i>
14h25 - 14h45	Oral communications OC15   Thais GAZZI - Roche - Basel, Switzerland Development of a Highly Selective NanoBRET Probe to Access MAGL Inhibition in Living Cells
14h45 - 15h05	<b>OC16</b>   <b>Kevin RENAULT</b> - Institut Curie - Orsay, France Development of fluorogenic probes based on covalent assembly principle
15h05 - 15h25	<b>OC17</b> I <b>Erica BENEDETTI</b> - Université Paris-Cité, Paris, France [2.2]Paracyclophane-based 3D ligand for RNA recognition: tuning selectivity through scaffold hopping
15h25 - 16h10	<b>PL9</b> I <b>David VOCADLO</b> - Simon Fraser University, Canada Chemical biology tools for probing and perturbing carbohydrate processing enzymes in mammalian systems
16h10 - 16h30	Closing ceremony and Awards Poster Awards : Hybrigenics Services - ACS Chemical Biology - RSC Chemical Biology RSC Medicinal Chemistry - RSC Pharmaceutics Short communication Award : ICSN
16h30	End of the congress



