## *Stéphane VINCENT*

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# Curriculum Vitae

Né le 1er août 1969 à Albi (France).
Nationalité française.

## *PARCOURS SCIENTIFIQUE*

2001 - 2004 **Chargé de Recherche au CNRS**
Ecole normale supérieure (ENS), UMR 8642, Département de Chimie, Paris (France).
Unité de Recherche du Professeur Pierre Sinaÿ.

1999 – 2000 **Stage post-doctoral** effectué au sein du Laboratoire de Chimie Supramoléculaire, Université Louis Pasteur, Strasbourg (France), sous la direction du Professeur Jean-Marie LEHN.

*Synthèse de polyammoniums et application au transport transmembranaire de polyanions d'importance biologique.*

.

1998-1999 **Stage post-doctoral** sous la tutelle du Pr Chi-Huey WONG,
The Scripps Research Institute, San Diego (USA).

*Synthèse de sucres fluorés en vue de l'inhibition de glycosyl-transférases.*
*Synthèse de C-glycopeptides mimant le sialyl Lewis x.*

Lauréat d'une bourse Lavoisier.

1994-1997 **Thèse de Doctorat** au Laboratoire de Synthèse Bioorganique sous la direction du Dr Charles MIOSKOWSKI, Université Louis Pasteur, Strasbourg.

*Synthèse d'analogues stables de guanosine diphosphate (GDP) en vue de la cristallisation bidimensionnelle de la protéine G du photorécepteur visuel.*

Lauréat d'une bourse du Ministère de la Recherche.

## *DOMAINES DE RECHERCHES*

***Enzymologie mécanistique –*** Synthèse de sondes mécanistiques et conformationnelles d'une enzyme clé de *Mycobacterium tuberculosis*, l'UDP-galactose mutase.

***Biosynthèse*** d'éthers cyclopentyliques polyhydroxylés.

***Pharmacochimie*** – Synthèse d'inhibiteurs de glycosyl transférases impliquées dans la biosynthèse des lipopolysaccharides bactériens. Une approche chimique du concept d'antipathogénicité.

***Méthodologie en synthèse organique*** – Chimie des sucres, des nucléosides, du phosphore et du fluor.

## *BREVETS*

5. V. Gerusz, S. Vincent, M. Oxoby, D. Atamanyuk F. Moreau, M. Andaloussi, A. Tikad (Mutabilis S.A.) *PCT Int. Appl.* (**2010**), n°PCT/IB2011/055404.
   "New HEPTOSE derivatives and biological applications thereof"
4. S. Escaich, S. Vincent (Mutabilis S.A.) *PCT Int. Appl.* (**2004**), Patent n° 04292873.9
   "Method for preparing enzymatic substrate analogs as inhibitors of bacterial heptosyl-transferases" Mutabilis S.A., France.
3. C. Nicolau, J.-M. Lehn, K. Fylaktakidou, S. P. Vincent, (Gmp Oxycell, Inc., USA).
   *PCT Int. Appl.* (**2004**), 76 pp., CODEN: PIXXD2 WO 2004002403 A2 20040108
   "Sterols Bearing Pendant Allosteric Effectors Of Hemoglobin, And Uses Thereof"
2. C. Nicolau, J.-M. Lehn, K. Fylaktakidou, R. Grefferath, S. P. Vincent (GMP Companies, Inc., USA). *PCT Int. Appl.* (**2003**), 94 pp., CODEN: PIXXD2 WO 2003092700 A1 20031113
   "Inositol pyrophosphates, and methods of use thereof"
1. J.-M. Lehn, C. Nicolau, S. P. Vincent, *Int. Patent* **2002**, WO 02/10177 A1

## *Book Chapters*

6. G. Eppe, S. El Bkasiny, S.P. Vincent
   *"Galactofuranose Biosynthesis: Discovery, Mechanisms and Therapeutic Relevance*"
   Editors: J. Jimenés-Barbeo, F.J. Cañada, S. Martin-Santamaria. *Publisher*: RSC.
   In *Carbohydrates in Drug Design and Discovery*, **2015**, *Volume 43*, 209-241
5. T. Li, A. Tikad, W. Pan, Y. Brissonnet, and S.P. Vincent
   "*Stereocontroled $\beta$ and $\alpha$ phosphorylations of D-mannose*"
   *Editors*: S. Vidal, R. Roy; *Publisher*: CRC Press
   In *Carbohydrate Chemistry: Proven Synthetic Methods,* **2015***, Volume 3*, 133-40.
4. A. Tikad and S.P. Vincent
   *"Synthetic methodologies towards aldoheptoses and their applications to the synthesis of biochemical probes and LPS fragments*"
   *Editors*: S. Vidal and D. Werz; *Publisher*: Wiley-VCH.
   in *Modern Synthetic Methods in Carbohydrate Chemistry*, **2014**, pp. 29-65.
3. Carine Maaliki, Charles Gauthier, Olivier Massinon, Ram Sagar, Stéphane P. Vincent* and Yves Blériot*
   "*Conformationally restricted glycoside derivatives as mechanistic probes and/or inhibitors of sugar processing enzymes and receptors*"
   *Editor*: AP Rauter, TK Lindhorst, Y Queneau; *Publisher*: Royal Society of Chemistry
   In *Carbohydr. Chem*., **2014**, *40*, 418–444

2. M. Durka, K. Buffet, T. Li, A. Tikad, B. Hagen and S.P. Vincent
"*Highly Diastereoselective Construction of L-heptosides by a sequential Grignard addition/Fleming-Tamao oxidation*"
*Editor*: G. Van der Marel; *Publisher*: CRC Press
In *Carbohydrate Chemistry: Proven Synthetic Methods,* **2013***, Volume 2*, Chpt 11, 75-82.

1. G. Eppe, A. Caravano, J. Désiré, S.P. Vincent
"*Synthesis of fluorinated exo-glycals mediated by Selectfluor*"
*Editor*: G. Van der Marel; *Publisher*: CRC Press
In *Carbohydrate Chemistry: Proven Synthetic Methods,* **2013***, Volume 2*, Chpt 12, 83-92.

## *PUBLICATIONS*

78 "*Pyruvate kinase coupled glycosyltransferase assays: limitations, struggles and problems resolutions*" H. Fu, W. Pan, S.P. Vincent *ChemBioChem* **2017**, *18*, 2129-36.

77. "*Identification of inhibitors targeting Mycobacterium tuberculosis cell wall biosynthesis via dynamic combinatorial chemistry*", J. Fu, H. Fu, M. Dieu, I. Halloum, L. Kremer, Y. Xia, W. Pan, S. P. Vincent, *Chem. Commun.* **2017**, *53*, 10632-35.

76. "*Synthesis of D-glycero-D-manno-heptose 1,7-bisphosphate (HBP) featuring a β-stereoselective bis-phosphorylation*"
L. Liang, S.P. Vincent *Tetrahedron Lett*. **2017**, *58*, 3631-33.

75. "*Natural and synthetic flavonoids as potent Mycobacterium tuberculosis UGM inhibitors*"
S. Villaume, J. Fu, I. N'Go, H. Liang, H. Lou, L. Kremer, W. Pan, S. P. Vincent
*Chem. Eur. J*. **2017**, *23*, 10423-29.

74. "*Synthesis of unprecedented sulfonylated phosphono-exo-glycals designed as inhibitors of the three mycobacterial galactofuranose processing enzymes*" C. Frédéric, A. Tikad, J. Fu, W. Pan, R. B. Zheng, A. Koizumi, X. Xue, T. L. Lowary, S. P. Vincent
*Chem. Eur. J*. **2016**, *22*, 15913-20.

73. "*Spatially Well-Defined Carbohydrate Nanoplatforms: Synthesis, Characterization and Lectin Interaction Study*" B.J.J. Timmer, M. Abellan Flos, L. Monster Jorgensen, D. Proverbio, S. Altun, O. Ramstrom, T. Aastrup, S.P. Vincent
*Chem. Commun.* **2016**, 52 (83), 12326-29.

72. "*Mechanistic insight into heptosyltransferase inhibition using Kdo multivalent glycoclusters*"
A. Tikad, H. Fu, C. Sevrain, S. Laurent, J.-F. Nierengarten, S.P. Vincent
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71. "*Multigram-scale Synthesis of L,D-heptoside Using a Fleming-Tamao Oxidation promoted by Mercuric Trifluoroacetate*"
T. Li, A. Tikad, M. Durka, W. Pan, S.P. Vincent
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70. "*Potent glycosidase inhibition with heterovalent fullerenes: unveiling the binding modes triggering multivalent inhibition*"
M.A. Flos, M.I. García Moreno, C. Ortiz Mellet, J.M. García Fernández, J.-F. Nierengarten, S.P. Vincent *Chem. Eur. J*. **2016**, *22*, 11450-60.

69. "*Synthesis of giant globular multivalent glycofullerenes as potent inhibitors in a model of Ebola virus infection*"
A. Muñoz, D. Sigwalt, B. Illescas, J. Luczkowiak, L. Rodriguez, I. Nierengarten, M. Holler, J.-S. Remy, K. Buffet, S. Vincent, J. Rojo, R. Delgado, J.-F. Nierengarten, N. Martín
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68. "Debenzylative cycloetherification (DBCE): an overlooked key strategy for complex tetrahydrofuran synthesis"
A. Tikad, J. Delbrouck, S.P. Vincent *Chem. Eur. J*. **2016**, *22*, 9456-76.

67. "*Force Nanoscopy as a Versatile Platform for Anti-adhesion Therapy*"
A. Beaussart, M. Abellán-Flos, S. El Kirat-Chatel, S.P. Vincent, Y.F. Dufrêne
*Nano Lett.* **2016**, *16*, 1299-1307.

66. "*Pillar[5]arene-based glycoclusters: Synthesis and multivalent binding to pathogenic bacterial lectins*" K. Buffet, I. Nierengarten, N. Galanos, E. Gillon, M. Holler, S. Matthews, A. Imberty, S. Vidal, S.P. Vincent, J.-F. Nierengarten
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65. "*Identification of a cytotoxic molecule in heat-modified citrus pectin Carbohydrate Polymers*" L. Leclere, M. Fransolet, P. Cambier, S. El Bkassiny, A. Tikad, M. Dieu, S.P. Vincent, P. Van Cutsem, C. Michiels *Carbohydr. Polymers* **2016**, *137*, 39–51.
64. "*Biologically active heteroglycoclusters constructed on a pillar[5]arene-containing [2]rotaxane scaffold*" S.P. Vincent, K. Buffet, I. Nierengarten, A. Imberty, J.-F. Nierengarten
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M. Abellán-Flos, Muhammet Tanç, Claudiu T. Supuran, S.P. Vincent
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K. Buffet, E. Gillon, M. Holler, J.-F. Nierengarten, A. Imberty, S.P. Vincent
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60. "Glycan foraging systems reveal the adaptation of Capnocytophaga canimorsus to the dog's mouth" F. Renzi, P. Manfredi, M. Dol, J. Fu, S.P. Vincent, G. Cornelis
*mBio* **2015**, *6*, e02507-14.
59. "*Structural Basis of Ligand Binding to UDP-galactopyranose Mutase from Mycobacterium tuberculosis Using Substrate and Tetrafluorinated Substrate Analogs*"
K.E. van Straaten, C.M. Sevrain, S.A. Villaume, J. Jiménez-Barbero, B. Linclau, S.P. Vincent, D.A.R. Sanders *J. Am. Chem. Soc.* **2015**, 37, 1230−1244.
58. "Forces in yeast flocculation"
S. El-Kirat-Chatel, A. Beaussart, S.P. Vincent, M. Abellán Flos, P. Hols, P.N. Lipke, Y.F. Dufrêne *Nanoscale*, **2015**, 7, 1760-67.
57. *"Stereoselective synthesis of boat-locked glycosidesdesigned as glycosyl hydrolase conformational probes*"
E. Thiery, J. Reniers, J. Wouters, S.P. Vincent *Eur. J. Org. Chem.*, **2015**, 1472-84.
56. "***β**-Selective One-Pot Fluoro-Phosphorylation of D,D-heptosyl-Glycals Mediated by Selectfluor*" S.P. Vincent, A. Tikad *Isr. J. Chem.* **2015**, *55*, 392-97.
55. "***β**-Stereoselective Phosphorylations Applied to the Synthesis of ADP- and Polyprenyl β-Mannopyranosides*" T. Li, A. Tikad, W. Pan, S.P. Vincent *Org. Lett.* **2014**, 16, 5628−5631.
54. "*Selectfluor and NFSI exo-glycals fluorination strategies applied to the enhancement of the binding affinity of galactofuranosyltransferase GlfT2 inhibitors*"
L. Dumitrescu, G. Eppe, A. Tikad, S. El Bkassiny, W. Pan; S. Gurcha, G. Besra; A. Arda, J. Jiménez-Barbero, S.P. Vincent *Chem. Eur. J.* **2014**, *20*, 15208-15.
53. "*Synthesis of a novel UDP-carbasugar as UDP-galactopyranose mutase inhibitor*"
S. El Bkassiny, I. N'Go, C.M. Sevrain, A. Tikad, S.P. Vincent
*Org. Lett.* **2014**, *16*, 2462−65.
52. **"***Fucosylation of triethyleneglycol-based acceptors into "clickable" alpha-fucosides***"**
S. Wang, N. Galanos, A. Rousset, S. Cecioni, K. Buffet, D. Lafont, S.P. Vincent, S. Vidal
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51. "*Tetrafluorination of sugars as strategy for enhancing protein-carbohydrate affinity: application to UDP-galactopyranose mutase inhibition*"
I. N'Go, S. Golten, Ana Ardá, J. Cañada, J. Jiménez-Barbero, B. Linclau, S.P. Vincent
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50. "Constrained 3,6-anhydro-heptosides: Synthesis Through a DAST-induced Debenzylative Reaction and Reactivity Profile"
A. Tikad, S.P. Vincent *Eur. J. Org. Chem*. **2013**, 7593-7603.

49. "*A novel base induced isomerization gives access to unprecedented E exo-glycals*"
G. Eppe, L. Dumitrescu, O. Pierrot, T. Li, W. Pan, S.P. Vincent
*Chem. Eur. J.* **2013**, *19*, 11547-52.

48. "*A mannosylated pillar[5]arene derivative: chiral information transfer and antiadhesive properties against uropathogenic bacteria*"
I. Nierengarten, K. Buffet, M. Holler, S. P. Vincent*, J.-F. Nierengarten*
*Tetrahedron Lett.* **2013**, *54*, 2398-2402.

47. *"Multivalent glycoconjugates as anti-pathogenic agents"*
A. Bernardi, J. Jiménez-Barbero, A. Casnati, C. De Castro, T. Darbre, F. Fieschi, J. Finne, H. Funken, K.-E. Jaeger, M. Lahmann, T. K. Lindhorst, M. Marradi, P. Messner, A. Molinaro, P. Murphy, C. Nativi, S. Oscarson, S. Penadés, F. Peri, R. J. Pieters, O. Renaudet, J.-L. Reymond, B. Richichi, J. Rojo, F. Sansone, C. Schäffer, W. B. Turnbull, T. Velasco-Torrijos, S. Vidal, S. Vincent, T. Wennekes, H. Zuilhof, A. Imberty
*Chem. Soc. Rev.* **2013**, *42*, 4709-27.

46. *"First steps towards conformationally selective artificial lectins: the chair-boat discrimation by molecularly imprinted polymers"*
V. Lemau de Talancé, O. Massinon, R. Baati, A. Wagner and S.P. Vincent
*Chem. Commun.* **2012**, *48* (86), 10684-86.

45. *"Reversible and Efficient Inhibition of UDP-galactopyranose mutase by electrophilic, constrained and unsaturated UDP-galactitols analogs"*
C. Ansiaux, I. N'Go, S.P. Vincent *Chem. Eur. J.* **2012**, *18*, 14860-14866.

44. "*The Inhibition of LPS heptosyltransferase with multivalent glycosylated fullerenes - a novel mode of glycosyltransferase inhibition*"
M. Durka, K. Buffet, J. Iehl, M Holler, J.-F. Nierengarten, S.P. Vincent *Chem. Eur. J.* **2012**, *18*, 641-651.

43. "*Synthesis and inhibition study of monoamine oxidase, indoleamine 2, 3-dioxygenase and tryptophan 2,3-dioxygenase by 3,8-substituted 5H-indeno[1,2-c]pyridazin-5-one derivatives*"
J. Reniers, C. Meinguet, L. Moineaux, B. Masereel, S. Vincent, R. Frederick, J. Wouters
*Eur. J. Med. Chem.* **2011**, *46*, 6104-6111

42. "*A simple synthesis of APM ([p-(N acrylamino)-phenyl]- mercuric chloride), a useful tool for the analysis of thiolated biomolecules*"
V. Lemau de Talancé, F. Bauer, D. Hermand and S.P. Vincent
*Bioorg. Med. Chem. Lett.* **2011**, *21*, 7265–7267.

41. "*Systematic Synthesis of Inhibitors of the Two First Enzymes of the Bacterial Heptose Biosynthetic Pathway - Towards Antivirulence Molecules Targeting LPS Biosynthesis*"
M. Durka, A. Tikad, R. Périon, M. Bosco, M. Andaloussi, S. Floquet, E. Malacain, F. Moreau, M. Oxoby, V. Gerusz, S.P. Vincent *Chem. Eur. J.* **2011**, *17*, 11305-13.

40. "*A simple synthesis of D-Galactono-1,4-lactone and key building-blocks for the preparation of galactofuranosides*"
V. Lemau de Talancé, E. Thiery, G. Eppe, S. El Bkassiny, J. Mortier and S. P. Vincent
*J. Carbohydr. Chem*., **2011**, *30*, 605-617.

39. "*The Functional Valency of Dodecamannosylated Fullerenes with Escherichia coli FimH – Towards Novel Bacterial Antiadhesives*"
M. Durka, K. Buffet, J. Iehl, M Holler, J.-F. Nierengarten, J. Taganna, J. Bouckaert, S.P. Vincent *Chem. Commun.* **2011**, *47*, 1321-3.

38. Synthesis and evaluation of β-carboline derivatives as potential monoamine oxidase inhibitors
J. Reniers, S. Robert, R. Frederick, B. Masereel, S. Vincent, J. Wouters
*Bioorg. Med. Chem.* **2011**, *19*, 134-144.

37. "*Fullerene Sugar Balls"*
J.-F. Nierengarten, J. Iehl, V. Oerthel, M Holler, B.M. Illescas, A. Muñoz, N. Martín, J. Rojo, M. Sánchez-Navarro, S. Cecioni, S. Vidal, K. Buffet, M. Durka, S.P. Vincent
*Chem. Commun.* **2010**, *46*, 3860-3862.

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A. Caravano and S. P. Vincent *Eur. J. Org. Chem.* **2009**, 1771-80.

35. " *Probing UDP-Galactopyranose mutase binding pocket: A dramatic fluorine effect on substitution at the 6-position of UDP- galactofuranose*"
G. Eppe, P. Peltier, R. Daniellou, C. Nugier-Chauvin, V. Ferrières and S. P. Vincent *Bioorg. Med. Chem. Lett.* **2009**, *19*, 814-816.

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H. Dohi, R. Périon, M. Durka, M. Bosco, Y. Roué, F. Moreau, S. Grizot, A. Ducruix, S. Escaich, S. P. Vincent *Chem. Eur. J.* **2008**, *14*, 9530-39.

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32. *"Aromatic – carbohydrate interactions: an NMR and computational study of model systems"*
S. Vandenbussche, D. Díaz, M. C. Fernández-Alonso, W. Pan, S. Vincent, G. Cuevas, F. J. Cañada, J. Jiménez-Barbero, K. Bartik *Chem. Eur. J.* **2008**, *14*, 7570-7578.

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W. Pan, C. Ansiaux, S. P. Vincent *Tetrahedron Lett.* **2007**, 48, 4353-56.

30. "*Complex biohopanoids synthesis: efficient anchoring of ribosyl subunits onto a C30 hopane*"
W. Pan, C. Sun, Y. Zhang, G. Liang, P. Sinaÿ, S. P. Vincent
*Chem. Eur. J.* **2007**, *13*, 1471-1480.

29. "*Diastereoselective synthesis of aminobacteriohopanetetrol, a biomarker for methanotrophic bacteria: confirmation of the absolute configuration*"
W. Pan, Y. Zhang, G. Liang, M. Rohmer, P. Sinaÿ, S. P. Vincent
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28. "*Stereoselectivity of the hydrogenation of galactofuranosyl exoglycals*"
A. Caravano, W. Pan, S. P. Vincent - ISSN 1424-1376
*Arkivoc* **2007**, *Commemorative issue in Honor of Professor Alain Krief,* 348-364.

27. "*Synthesis of galactosides locked in a $^{1,4}$B boat conformation and functionalized at the anomeric position*"
A. Caravano, D. Baillieul, C. Ansiaux, W. Pan, J. Kovensky, P. Sinaÿ, S. P. Vincent
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26. "Structure of the E. coli heptosyltransferase WaaC binary complexes with ADP and ADP-2-deoxy-2-fluoro heptose"
S. Grizot, M. Salem, V. Vongsouthi, L. Durand; F. Moreau; H. Dohi, S. Vincent, S. Escaich, A. Ducruix *J. Mol. Biol*. **2006**, *363*, 383-394.

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P.T. Nyffeler, S.G. Duron, M. D. Burkart, S. P. Vincent, C.-H. Wong
*Angew. Chem. Int. Ed*. **2005**, *44*, 192-212.

21. "Efficient synthesis of a nucleoside-diphospho-exoglycal displaying time-dependent inactivation of UDP-galactopyranose mutase"
A. Caravano, S. P. Vincent, P. Sinaÿ *Chem. Commun.* **2004**, 1216-7.

20. "Cyclic amidine-sugars as transition-state analog inhibitors of glycosidases: Potent competitive inhibitors of mannosidases"
M.-P. Heck, S. P. Vincent, B. Murray, C.-H. Wong, C. Mioskowski *J. Am. Chem. Soc.* **2004**, *126*, 1971-9.

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A. Caravano, D. Mengin-Lecreulx, J.-M. Brondello, S. P. Vincent*, P. Sinaÿ* *Chem. Eur. J.* **2003**, *23*, 5888-98.

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S. P. Vincent, P. Sinaÿ, M. Rohmer *Chem Commun.* **2003**, 782-3

17. "An improved synthesis of GDP-hexanolamine, a key tool for the purification of fucosyltransferases"
S. P. Vincent, L. N. Gastinel *Carbohydr. Res*. **2002**, *337*, 1039-42

16. "Transport of the highly charged *myo*-Inositol Hexakisphosphate molecule across the red blood cell membrane : a phase transfer and biological study"
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14. "Asymmetric Strecker Synthesis of C-Glycopeptides"
S.P. Vincent, A. Schleyer, C.-H. Wong *J. Org. Chem.* **2000**, *65*, 14, 4440-43.

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A. Düffels, L.G. Luke, R. Lenz, S. Ley, S.P. Vincent, C.-H. Wong *Bioorg. Med. Chem.* **2000**, *8*, 2519-2525.

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M. Burkart, S.P. Vincent, A. Düffels, B. Murray, S. Ley, C.-H. Wong *Bioorg. Med. Chem.* **2000**, *8*, 1937-46.

11. "An efficient synthesis of CMP-3-fluoroneuraminic acid"
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4. "*N*,*N*-dibenzyl Formamidine as a New Protective Group for Primary Amines"
S. Vincent, S. Mons, L. Lebeau, C. Mioskowski *Tetrahedron Lett.* **1997**, 38, 7527-7530

3. C. Lion, Mir Hedayatullah, C. Charvy, S. Vincent, S. Briand, L.Fosset, G. Delmas, G. Magnaud, M. Desgranges et H. Sentenac-Roumanou. *Bull. Soc. Chim. Belg.* **1995**, 104 (8), 515-519.

2. "Selective Oxidation of sulfides to sulfoxides by atmospheric oxygen and aldehyde catalysed by $Ni^{II}$ complexes"
S. Vincent, C. Lion, Mir Hedayatullah, A. Challier, G. Delmas, G. Magnaud *Phosphorus Sulfur and Silicon* **1994**, 92, 189-192.

1. "Décontamination douce de toxiques organophosphorés et soufrés par quelques dérivés de l'eau oxygénée"
C. Lion, Mir Hedayatullah, C. Charvy, S. Briand, S. Vincent, J. Boileau, et al. *Bull. Soc. Chim. Belg.* **1994**, 103 (3), 115-118.

## *CONFERENCES*

- **Conférences dans des congrès scientifiques**

- Juillet **2017**, EuroCarb 2017 (Barcelone, Espagne). "*Multivalent glycosyltransferase inhibition using Kdo multimers*".
- Octobre **2016**, 27th Joint Glycobiology Meeting, (Nijmegen, Pays-Bas). "*The inhibition of biologically relevant glycosyl processing enzymes: Design, synthesis and applications*".
- Juillet **2016**, BOSS Meeting (Antwerp, Belgium). Plenary lecture "*Fluorinated or multivalent carbohydrates designed as antibacterial agents*"
- Août **2015**, 21st International Symposium on Fluorine Chemistry, Como (Italy). "*Fluorosugars as inhibitors of essential bacterial enzymes: design, synthesis and biological profiles*".
- Juin **2015**, Journées de la Société Chimique de France, Reims."*Conception de glycoconjugués pour combattre les bactéries pathogènes et leurs mécanismes de virulence*".
- Mars **2015**, *The 16th Annual Florida Heterocyclic and Synthetic Conference*, University of Florida in Gainesville, USA.
- Février **2015**, Journées Jeunes Chercheurs de la Société Chimique de France, Orléans. «*Chimie des sucres et du fluor au service de la recherche sur les maladies infectieuses* ».
- Septembre **2014**, 25th Joint Glycobiology Meeting, Ghent (Belgium),
"*The galactofuranose biosynthetic pathway: history and biomedical applications*"
- Juillet **2013**, EuroCarb, Tel-Aviv (Israel). « *Synthesis of UDP-galactofuranose analogues as UDP-galactopyranose mutase inhibitors* ».
- Avril **2013**, GluciDoc, Landenda (France). "*La glycochimie et les maladies infectieuses*".
- Avril **2013**, Workshop of the ESF COST project MultiGlycoNano CM1102, Pragues.
"*Glycofullerenes as antiadhesive molecules and glycosyltransferase inhibitors*"
- Juillet **2012**, 26th International Carbohydrate Symposium (ICS 2012), Madrid.
"*Synthesis of inhibitors of the heptose biosynthetic pathway for the discovery of Antivirulence and Antibacterial Agents*"
- Juillet **2012**, 19th Conference on Phosphorus Chemistry (ICPXC 2012), Rotterdam.
*"Synthesis of glycosyl phosphonates targeting the bacterial cell wall biosynthesis"*
- Janvier **2012**, "Open Problems in Systems Chemistry", Montpellier (France). "*The Glycochemistry and biochemistry of complex systems: the galactofuranose biosynthesis, a case study*".
- Novembre **2011**, "Joint Meeting of Glycobiology", Lille.
*"Towards novel Antivirulence and Antibacterial Agents Targeting LPS Glycosyltransferases"*
- Avril **2011**, European Young Investigator Workshop, Lyon, "*Synthesis of antiadhesive molecules and inhibitors of the LPS Biosynthetic pathway – Towards Antivirulence Molecules*"
- Septembre **2010**, 10th RSC Fluorine Group Symposium, "*Synthesis of fluorinated carbohydrates targeting the bacterial cell wall biosynthesis*", Durham University (UK).
- Mai **2010**, XXIIIèmes Journées du GFG, Cap-Hornu (France) "Synthèse de glycosides fluorés ciblant la biosynthèse des parois bactériennes"
- Octobre **2009**, *International Symposium on Dynamic Chemical Biology*, Stockholm
"*Fluorinated carbohydrates as chemical probes in biology and enzymology*"
- Mars **2009**, Congrès International LOST-II - Learning Organic Synthesis Tremendously -

"*The interplay between carbohydrate chemistry and infectious diseases: three case studies*"
- Septembre **2007**, 15th Romanian International Conference on Chemistry and Chemical Engeneering, Sinaia (Roumanie).
"*Biosynthetic and Mechanistic Investigations of Two Enzymatic Ring Contractions*"

- Mars **2007**, Dublin (Irlande), Workshop "*Modern Carbohydrate and Glycoconjugate Chemistry*"
"Synthesis of conformational and mechanistic probes of UDP-Gal mutase"

- Février **2007**, Houffalize, "8èmes Rencontres Franco-Belges de Chimie Organique"
"Synthèse et Biosynthèse d'hopanoïdes fonctionnalisés : vers la découverte de nouvelles réactions enzymatiques"

- Mai **2006**, Vrije Universiteit Brussel, "Meeting of the Working group for Glycosciences", Belgique.
"Biosynthetic and Mechanistic Investigations of Two Enzymatic Ring Contractions"
- Mars **2006**, ERA-Chemistry Workshop, Madrid (Espagne) "Stereo-controlled chemistry related to the solution of major biological problems".
Conférence : " Biosynthetic and Mechanistic Investigations of Two Enzymatic Ring Contractions"
- Juin **2005**, Institut Européen des Membranes (IEM), Montpellier (France), Mini-symposium "Nanosystèmes supramoléculaires adaptatifs".
"Investigating two new biocatalytic ring contractions"
- Décembre **2004**, "SPA-Aldrich Meetings", Spa (Belgique).
"Synthesis of conformational and mechanistic probes of UDP-Gal mutase"

- Avril **2004**, "Bürgenstock Conference" (Suisse).
Poster "Probing the conformational itinerary of an enzymatic pyranose/furanose interconversion"

- *Deux conférences invitées* au cours du "First PERCH-MeRinOS Meeting"
Bangkok (Thaïlande), septembre **2003**.
"Synthesis of fluorinated glycosides as mechanism-based inhibitors of glycosyl processing enzymes"
"Mechanistic investigation of a key enzyme involved in the *Mycobacterium tuberculosis* cell wall biosynthesis"

- *Conférence de remise du "Prix de la Vocation en Chimie Thérapeutique"*
juillet **2001** à Tours, "XXXIèmes Rencontres Internationales de Chimie Thérapeutique" (France).
"Synthesis of mechanism-based inhibitors of glycosyl transferases",

- **Conférences invitées dans des universités**

- Novembre **2017**, Université de Berne (Suisse). « *Fluorinated or multivalent carbohydrates designed as antibacterial agents".*
- Novembre **2017**, "Annual meeting Infectiology Research Pole », UNamur. "*Artificial sugars as antivirulent agents*".
- Juin **2017**, Institut de Chimie des Substances Naturelles (ICSN, France). « *Fluorinated and multivalent carbohydrates designed as antibacterial agents* »
- Mai **2017**, University of Strasbourg (France). « *Synthesis and biochemistry of glycosylated fullerenes and borromean rings* ».
- Septembre **2016**, Centre « Petru Poni, Iasi (Roumanie). « *Synthetic carbohydrates designed to question infectious diseases* ».
- Février **2016**, Université Pierre et Marie Curie (Paris, France). « *Fluorinated or multivalent carbohydrates designed as antibacterial agents* ».
- Octobre **2015**, Tsinghua Univesity (Pékin, Chine). « *Exploring antivirulence and antiadhesive strategies to discover new antibacterial agents* ».
- Octobre **2015**, University of Ghizou (Guiyang, Chine). « *Targeting the galactofuranose pathway to discover new anti-tubercular agents*"
- Mars **2015**, Université de Séville (Espagne), "*Designing glycoconjugates to fight pathogenic bacteria and their virulence mechanisms*".
**-** Février **2015,** Université de Lille (France). "*Designing glycoconjugates to fight pathogenic bacteria and their virulence mechanisms*".
- Février **2014**, Université de Poitiers (France), "*From antibacterial carbohydrates to multivalent glycodendrimers*"**.**
- Février **2014**, Université de Tours (France), "*Synthetic chemistry and biochemistry of therapeutically relevant carbohydrates*"**.**

- Janvier **2013**, Université de Strasbourg (France), "*Sugars, fluorine chemistry and antibacterial strategies*".
- Février **2012**, Université de Poitiers (France), "*Nouvelles stratégies antibactériennes impliquant des glycoconjugués*"
- Octobre **2011**, Academia Sinica, Taipei (Taiwan), "*Towards novel Antivirulence and Antibacterial Agents Targeting Carbohydrate Processing Proteins*"
- Mars **2011**, Université Claude Bernard, Lyon (France), "*Développement de méthodologies de synthèse de sucres dédiés à la découverte de nouveaux antibactériens*".
- Janvier **2010**, *Nouvelles méthodologies de fluorations de sucres appliquées à la synthèse de sondes mécanistiques d'enzymes* Université Pierre et Marie Curie (Paris, France).
- Juillet **2009**, Key Laboratory of Chemistry for Natural Products of Ghizou Province, Guyang (Chine)
"*New strategies for fighting tuberculosis: the inhibition of the arabinogalactan biosynthesis*"
- Juillet **2009**, Université de Ghizou, Guiyang (Chine)
"*Development of innovative fluorination methodologies applied to chemical biology and medicine*"
- Juillet **2009**, Université de Pékin.
"Synthesis of carbohydrate-based inhibitors of the bacterial cell wall biosynthesis"
- Décembre **2008**, Université Louis Pasteur, Strasbourg.
"*Quelques aspects de l'interface entre les glycosciences et la bactériologie*"
- Mai **2008**, Université Paris Descartes, Faculté de Pharmacie
"*Synthèse d'inhibiteurs de nouvelles cibles antibactériennes : une approche mécanistique et conformationnelle*"
- Février **2008**, Université de Montpellier II,
"*Synthèse de glycosylphosphonates en tant que sondes mécanistiques et conformationnelles de réactions enzymatiques*".
- Juillet **2007**, Institut Européen de Chimie et de Biologie (IECB), Bordeaux.
"*Biosynthetic and Mechanistic Investigations of Enzymatic Ring Contractions*"
- Janvier **2007**, Université d'Amiens, France
"Synthèse de C-glycosides et d'exoglycals fluorés en tant qu'inhibiteurs de la biosynthèse des parois bacteriennes"
- Janvier **2006**, Semaine de Conférences Interdisciplinaires "Qu'est ce que la vie ?", Namur.
Conférence : "Au delà des alphabets génétiques et protéiques : d'autres alphabets moléculaires du vivant"
- Mai **2005**, quatre conférences dans le cadre de quatre mini-symposiums belgo-chinois (Chine).
"How are polyhydroxylated ethers biosynthesized ?" et
"A mechanistic investigation of UDP-galactopyranose mutase, a key enzyme of *Mycobacterium tuberculosis* membrane biosynthesis"
  - HsingHua University (Beijing)
  - Jilin University (Jilin)
  - Dalian University of Technology (Dalian)
  - Fudan University (Shanghai)
- Novembre **2004**, "Life-sciences Seminars",Département de Biologie, FUNDP, Namur (Belgique).
"Recent advances at the interfaces of glycochemistry, biocatalysis and cell biology"
- Décembre **2003**, Institut de Chimie Moléculaire et des Matériaux d'Orsay (France).
*"Etude mécanistique d'une enzyme essentielle de Mycobacterium tuberculosis"*
- Avril **2001** à Marseille, AFMB (France).
"Synthèse de 2-fluoro-saccharides en tant que sondes mécanistiques des glycosyl-transférases"
- Octobre **1999** à Strasbourg (France) - Conférence ISIS/Collège de France
"Synthesis of functionnalized lipids for the 2D-crystallization of G-proteins. Synthesis of mechanism-based inhibitors of glycosyl transferases"

- **Conférences invitées en milieu industriel**

- Mai **2009**, *Johnson and Johnson*, Beerse, Belgique.
"Infectious diseases: new therapeutic strategies targeting carbohydrate processing enzymes"

- Septembre **2008**, UCB Pharma, Braine L'Alleud.
"The interface between synthetic chemistry and biology in glycosciences"
- Septembre **2008**, Société Idenix, Montpellier, France.
"*The interplay between carbohydrate chemistry and infectious diseases*"
- Juin **2006**, Eli Lilly, Mont Saint-Guibert, Belgique.
"The interface between synthetic chemistry and enzymology in glycosciences"