Curriculum Vitae

Dr. Xavier CATTOËN
Born february 4th, 1978 in Poitiers (France)

Chargé de Recherches CNRS
Institut Néel Grenoble, UPR 2940 (CNRS – Univ Grenoble-Alpes)
Team *Optics and Materials*
25, Avenue des Martyrs 38042 GRENOBLE, France

Diplomas:
2012: *Habilitation to lead Research* (University Montpellier 2, F)
2004: *PhD Thesis* (Université Paul Sabatier, Toulouse, F)
2000: « *Agrégation »* in physical sciences, specialty Chemistry
1997-1999: *Licence, Maîtrise* of physical chemistry *and Magistère* of molecular physical chemistry (University Paris XI, Orsay et ENS Cachan).

Research experience
06/2013- : *CNRS researcher* at the Institut Néel in Grenoble (F): Functional materials for biophotonics.
10/2007-05/2013: *CNRS researcher* at the Institut Charles Gerhardt in Montpellier (F): Synthesis of hybrid silicas, nanostructuring and application in catalysis and photonics.
09/2004-08/2007: *postdoctoral researcher*, (ICIQ, Tarragona, Spain), in the group of M. A. Pericàs: "Supported asymmetric catalysts on gold nanoparticles".
2001-2004: *PhD*, University Paul Sabatier (Toulouse), (2 years) and University of California, (Riverside, USA) (1 year), under G. Bertrand and D. Bourissou: "Amino-carbenes: Unusual Rearrangements and Complexation".

Distinction:
Thesis award, SFC Midi-Pyrénées 2004
Visiting fellow, University of Western Sydney, mars 2011

Research interests:
Sol-gel synthesis of silica and hybrid silica materials and nanoparticles.
Nanostrucuring of organosilicas through internal or external templates.
Nanomedicine.
Luminescent materials.
Supported organometallic and organic catalysis.

65 publications, including:

* A. M. Cojocariu, X. Cattoën, R. Le Parc, D. Maurin, C. Blanc, P. Dieudonné, J.-L. Bantignies, M. Wong Chi Man and J. R. Bartlett, "*Evaporation-induced self-structuring of organised silica nanohybrid films through cooperative physical and chemical interactions" Phys. Chem. Chem. Phys.*, 2016, **18**, 7946–7955.

* A. Noureddine, M. Gary-Bobo, L. Lichon, M. Garcia, J. I. Zink, M. Wong Chi Man and X. Cattoën,

"Bis-clickable Mesoporous Silica Nanoparticles: Straightforward Preparation of Light-Actuated Nanomachines for Controlled Drug Delivery with Active Targeting" Chem. Eur. J., 2016, **22**, 9624–9630.

* J. G. Croissant, X. Cattoën, M. Wong Chi Man, P. Dieudonné, C. Charnay, L. Raehm and J.-O. Durand, "*One-Pot Construction of Multipodal Hybrid Periodic Mesoporous Organosilica Nanoparticles with Crystal-Like Architectures" Adv. Mater.*, 2015, **27**, 145–149.

* J. G. Croissant, X. Cattoën, M. Wong Chi Man, J.-O. Durand and N. M. Khashab, "*Syntheses and applications of periodic mesoporous organosilica nanoparticles*" *Nanoscale*, 2015, **7**, 20318–20334.

* A. Noureddine, L. Lichon, M. Maynadier, M. Garcia, M. Gary-Bobo, J. I. Zink, X. Cattoën and M. Wong Chi Man, "*Controlled multiple functionalization of mesoporous silica nanoparticles: homogeneous implementation of pairs of functionalities communicating through energy or proton transfers" Nanoscale*, 2015, **7**, 11444–11452.

* A. Noureddine, P. Trens, G. Toquer, X. Cattoën and M. Wong Chi Man, "*Tailoring the Hydrophilic/Lipophilic Balance of Clickable Mesoporous Organosilicas by the Copper-Catalyzed Azide Alkyne Cycloaddition Click-Functionalization*" *Langmuir*, 2014, **30**, 12297–12305.

* K. Bürglová, A. Noureddine, J. Hodačová, G. Toquer, X. Cattoën and M. Wong Chi Man, "*A General Method for Preparing Bridged Organosilanes with Pendant Functional Groups and Functional Mesoporous Organosilicas*" *Chem. Eur. J.*, 2014, **20**, 10371–10382.

* J. Croissant, X. Cattoën, M. Wong Chi Man, A. Gallud, L. Raehm, P. Trens, M. Maynadier and J.-O. Durand, "*Biodegradable Ethylene-Bis(Propyl)Disulfide-Based Periodic Mesoporous Organosilica Nanorods and Nanospheres for Efficient In-Vitro Drug Delivery*" *Adv. Mater.*, 2014, **26**, 6174–6180.

Patents

- Wong Chi Man, M.; Cattoën, X.; Bürglova, K.; Hodačová, J., *Composés Organosilanes Polysilylés.* FR 2992964, WO 201400622.
- Wong Chi Man, M.; Cattoën, X.; Moitra, N.; Bürglova, K.; Hodačová, J., *Précurseurs Organosilanes Polysilylés Fonctionnalisables.* FR 2992963, WO 2014006222.

Book chapter

- S. Shenoi-Perdoor, A. Noureddine, F. Dubois, M. Wong Chi Man and X. Cattoën, "Click Functionalization of Sol-Gel Materials" in *Handbook of Sol-Gel Science and Technology*, Springer, 2016, DOI 10.1007/978-3-319-19454-7_95-1.

Invited conferences:

- *XVII International Sol-Gel Conference*, Madrid (Spain), **August 25-30th, 2013**
- *Nanoapp 2015*, Maribor (Slovenia) **june 22-26th, 2015**

Teaching activities:

Practical works and exercise sessions of organic chemistry at the University Grenoble-Alpes (60 h/y, BSc and Masters)

Invited lecturer at the NanoAndes summer school (Cali, Columbia, nov 2016): 1 lecture and 3 sessions of practical works in Spanish to Master and PhD student from Latin America.