**CURRICULUM VITAE**

**Dr. Michel WONG CHI MAN**

**ACADEMIC QUALIFICATIONS**

1987 - PhD in Chemistry (University Montpellier 2- France)

2003 - Habilitation

#### POST-DOCTORAL POSITIONS

* Dec.1987-Dec.1988: (CNRS fellowship) Laboratoire de Chimie Organométallique: University Montpellier 2 – France
* March1989-Feb.1990: (Alexander von Humboldt foundation fellowship) laboratory "Anorganisch-ChemischesInstitut der Universität" University of Heidelberg - Germany

# EMPLOYMENT HISTORY

* March-Sept.1990: Associate Professor(University Montpellier 2 – France)
* Oct.1990-Sept.2003: – Junior CNRS scientist(University Montpellier 2 and Ecole Nationale Supérieure de Chimie de Montpellier)
* 2003-2010:– Senior CNRS scientist–2nd class (Institut Charles Gerhardt Montpellier)
* 2010-present: – Senior CNRS scientist –1st class (Institut Charles Gerhardt Montpellier)

### PROFESSIONAL COMMITTEES and INTERNATIONAL ORGANISATIONS

* Member of the French Scientific Research Council (CNRS) 2000-2003 (Chemistry Department - served as evaluator for section 12).
* Member of the Council ofUniversity Montpellier 2 2006-2008 (Physics department - section 28)
* Member of the Scientific Committee of the Graduate School of Chemistry (ENSCM) 2005-2009.
* Member of the Board of the International Sol-Gel Society (ISGS) since 2011.
* Member of the International Advisory Board of the “International Sol-Gel Conference - ISGC”: 2007-2013.
* Member of the International Advisory Board of the “International Symposium on OrganosiliconChemistry - ISOS” since 2008.
* Member of the International Advisory Board of the “Sol-Gel Processing on Advanced Ceramics - SGPAC (2008)
* Member of the International Advisory Board of the “International Mesostructured Materials Symposium - IMMS” (2013)
* Member of the International Board of the “International Conference on Biomaterials, Bioengineering & Nano drug delivery (APA-2016)” (2016)

##### INTERNATIONAL and NATIONAL CONFERENCE COMMITTEES

* Member of the organising committee of ISOC XI (XIth International Symposium on Organosilicon Chemistry): University Montpellier 2 - FRANCE (1-6 September 1996)
* Co-chairman of the organizingcommittee of « Chimie Séparative »SummerSchool (*De la micelle à la vitrocéramique en passant par le mésoporeux : Formulation et modélisation)*: Montpellier & Marcoule - FRANCE(11-16 September 2006)
* Co-chairman of the organizing committee of XIVth ISGC (XIVth International Sol-Gel Conference): Montpellier – FRANCE (2-7 September 2007)
* Member of the Scientific Committee of the “Journéessol-gel : édition 2008" Tours - FRANCE(21-23 January 2008)
* Co-chairman of the 1st Annual World Congress of Nano-S&T (Track 12.2: Self organization and self-assembly in Chemistry) Dalian – China (23-26 October 2011)
* Co-chairman of the organizing committee of NANOAPP Conference: Portoroz – SLOVENIA (22-26 September 2013) and Maribor (23-26 June 2015)
* Chairman of the organizing committee of ICMN2014 (International Conference on Nanostructured Materials for health, energy and environment applications): Mauritius (31 August – 5th September 2014)

**JOURNAL EDITORIAL ROLES**

* Guest editor, Special Issue Volume 1 of the *Journal of Sol-Gel Science & Technology,* vol 46, 2008.
* Guest editor, Special Issue on Applications of Metal Oxide Nanostructures, *Science of Advanced Materials*, vol 2(1-2), 2010.
* Review Editor for “Frontiers in Inorganic Chemistry” (NPG)

**AWARDS and INVITED POSITIONS**

* ***1989-1990***: Alexander von Humboldt fellowship
* July ***2004***: Invited Professor (University Autonoma de Barcelona – Barcelona, Spain)
* December ***2006***: GuestScientist (Australian Nuclear Scientific & Technology Organisation – Lucas Heights, Australia)
* December ***2011***: Invited Scientist (University of Western Sydney – Sydney, Australia)
* September ***2012***: Guest Scientist (National Institute of Materials Science – Tsukuba, Japan)
* 14thJuly to 12thAugust***2014***: Alexander von Humboldt funding for 1 month stay in Germany (visits to Humboldt Univzu Berlin, TechnischeUniv of Berlin, Kiel Univ.,Univ. of Heidelberg, Univ des Saarlandes, Univ Kiel)
* 1st – 28thFebruary ***2015***: FNRS Invited sabbatical Scientist (University of Liège – Liège, Belgium)
* 21st September – 21st December ***2015***: Laureate of the "Programme de Chaires Franco-Brésiliennesdansl’état de São Paulo" (São Paulo, Brazil)

**RESEARCH TOPICS**

Until 1990, I have worked on Organic and Organometallic Chemistry particularly based on organosilicon and organoboron chemistry. My main interests were then focused on the synthesis and the studies of hybrid organic-inorganic silica prepared by the sol-gel process for several applications: supported catalysis, porosity control in silica, organic polymer-silica composite, hydrophobic and oleophobic hybrids, selective uptake of rare earth metals, photoluminescenthybrids, molecular imprinting. In 2001, we developed a general approach (using self-assembly) to self-direct the structuring of bridged silsesquioxanes at several scale length (molecular, to macroscopic scale to obtain hierarchical plate-like hybrids with lamellar periodicity at the molecular scale, chiral helices with controlled handedness, hollow tubes, nanoscopic and microscopic spheres and also fluorescent macroscopic gels. Our recent studies afforded significant insights into the mechanistic formation of these structured materials. We have also been exploiting the molecular recognition systems namely nucleic base pairs to structure the hybrids in view to prepare biomaterials. In this field we are developing nano-mechanisedmesoporous hybrid silica nanoparticles for controlled drug delivery for cancer diagnosis and therapy.

**Selected papers among 150 Publications in peer reviewed journals**

1 - New mixed organic-inorganic polymers: hydrolysis and polycondensation of Bis(trimethoxysilyl)organometallic precursors

Corriu, R.J.P.; Moreau, J.J.E.; Thépot, P.; Wong Chi Man, M., *Chemistry of Materials*, **1992**, *4*, 1217.

2 - Tailoring of organically modified silicas for the solid-liquid extraction of actinides

Bourg, S.; Broudic, J-C. ; Conocar, O.; Moreau, J.J.E.; Meyer, D.; Wong Chi Man, M. *Chemistry of Materials*, **2001**, *13*, 491.

3 - New hybrid organic-inorganic solids with helical morphology via H-bond mediated sol-gel hydrolysis of silyl derivatives of chiral (R,R)- or (S,S)-diureidocyclohexane

Moreau, J.J.E.; Vellutini, L.; Wong Chi Man, M.; Bied, C.*Journal of the American Chemical Society*, **2001**, *123*, 1509.

4 - Self-organized hybrid silica with lamellar structure

Moreau, J.J.E.; Vellutini, L.; Wong Chi Man, M.; Bied, C.; Bantignies, J-L.; Dieudonné, P.; Sauvajol, J-L. *Journal of the American Chemical Society*, **2001**, *123*, 7957.

5 - A better understanding of the self-structuration of bridged silsesquioxanes.

Moreau, J.J.E.; Pichon, B.P.; Wong Chi Man, M.; Bied, C.; Pritzkow, H.; Dieudonné, P.; Bantignies, J-L.; Sauvajol, J-L. *Angewandte Chemie Int. Ed.*, **2004**, *43*, 203.

6-Hybrid organic-inorganic materials as recyclable metathesis catalysts derived from a monosilylatedHoveyda-type ligand

Elias, X.; Pleixats, R.; Wong Chi Man M.; Moreau, J.J.E. *Advanced Synthesis& Catalysis,* **2007**, *349*, 1701.

7 - Size and shape dependence of organo-interconnected silsesquioxanes through hydrolysis-condensation reaction conditions: Nanotubes, spheres and films

Pichon, B.P., Wong Chi Man, M.; Dieudonné, P.; Bantignies, J-L.; Bied, C.; Sauvajol, J-L.; Moreau J.J.E.*Advanced Functional Materials,* **2007**, *17*, 2349.

8 – Efficient and versatile sol-gel immobilized copper catalyst for Ullmann arylation of phenols

Benyahya, S.; Monnier, F.; Taillefer, M.; Wong Chi Man, M.; Bied, C.; Ouazzani, F. *Advanced Synthesis & Catalysis***2008**, *350*, 2205.

9 - Silylated melamine and cyanuric acid as precursors for imprinted and hybrid silica materials with molecular recognition properties

Arrachart, G.; Carcel, C.; Trens, P.; Moreau, J.J.E.; Wong Chi Man, M. *Chemistry-A European Journal***2009**, *15*, 6279-6288.

10 –Hybrid materials: versatile matrices for supporting homogeneous catalysts

Zamboulis, A.; Moitra, N.; Moreau J.J.E.; Cattoën, X; Wong Chi Man, M. *Journal of Materials Chemistry***2010**,*20*, 9322.

11 - Convenient route to water-sensitive sol-gel precursors using Click chemistry

Moitra, N.; Moreau, J.J.E.; Cattoën, X.; Wong Chi Man, M.,*Chemical Communications*, **2010**, *46*, 8416.

12 – pH-responsive bridged silsesquioxanes

Fertier, L.; Théron, C.; Carcel, C.; Trens, P.; Wong Chi Man, M., *Chemistry of Materials,***2011**, *23*, 2100.

13 – Modulating the photoluminescence of bridged silsesquioxanes incorporating Eu3+-complexed n,n’-diureido-2,2’-bipyridine isomers : Application for luminescent solar concentrators

Graffion, J.; Cattoën, X.; Wong Chi Man, M.; Fernandes, V.R.; André, P.S.; Ferreira, R.A.S.; Carlos, L.D., *Chemistry of Materials* **2011**, *23*, 4773.

14 - Imidazolium-derived organosilicas for catalytic applications

Monge-Marcet, A; Pleixats, R.; Cattoën, X.; Wong Chi Man, M., *Catalysis Science & Technology,* **2011**, *1*, 1544.

15 – Engineering of metal-free bipyridine-based bridged silsesquioxanes for sustainable solid-state lighting

Graffion,J.; Cattoën, X.; Freitas, F.; Ferreira, R.A.S.; Wong Chi Man, M.;Carlos, L.D., *Journal of Materials Chemistry* **2012**, *22*, 6711.

16 –Recyclable silica-supported prolinamideorganocatalysts for direct asymmetric aldol reaction in water

Monge-Marcet, A.; Cattoën, X.; Alonso, D.A.; Najera, C.; Wong Chi Man, M.; Pleixats, R., *Green Chemistry* **2012*,*** *14*, 1601.

17–Tunable multifunctional mesoporous silica microdots arrays by combination of inkjet printing, EISA and click chemistry

De Los Cobos, O.; Fousseret, B.; Lejeune, M.; Rossignol, F.; Colas, M.; Carrion, C.; Boissière, C.; Ribot, F.; Sanchez, C.; Cattoën, X.; Wong Chi Man, M.; Durand, J-O., *Chemistry of Materials* **2012**, *24*, 4337.

18 – A designed 5-FU-based bridged silsesquioxane as autonomous acid-triggered drug delivery systems

Giret S.; Théron, C.; Gallud, A.; Maynadier, M.; Gary-Bobo, M.; Garcia, M.; Wong Chi Man, M.; Carcel, C.,*Chemistry - A European Journal*, **2013**, *19*, 12806.

19 – Hybrid mesoporous silica nanoparticles with pH-operated and complementary H-bonding stoppers as autonomous drug delivery system

Théron, C.; Gallud, A.; Carcel, C.; Gary-Bobo, M.; Maynadier, M.; Garcia, M.; Lu, J.; Tamanoi, F.; Zink, J. I. ; Wong Chi Man, M., *Chemistry - A European Journal*, **2014**, *20*, 9372.

20 – Biodegradable ethylene-bis(propyl)disulfide-based periodic mesoporousorganosilicasnanorods and nanospheres for efficient in-vitro drug delivery

Croissant, J.; Cattoën, X.; Wong Chi Man, M.; Gallud, A.; Raehm, L.; Maynadier, M.; Durand, J-O., *Advanced Materials*, **2014**, *26*, 6174.

21 – Mixed Periodic MesoporousOrganosilica Nanoparticles and Core-Shell Systems, Application to in Vitro Two-Photon Imaging, Therapy and Drug Delivery

Chem Mater Croissant, J.; Salles D.; Maynadier, M.; Mongin, O.; Hugues,V.; Blanchard-Desce, M.; Cattoën, X.; Wong Chi Man, M.; Gallud, A.; Garcia, M.; Gary-Bobo, M.; Raehm, L.; Durand, J-O.*Chemistry of Materials* **2014**, *26*, 7214.

22 – One-Pot Construction of Multipodal Hybrid Periodic MesoporousOrganosilica Nanoparticles with Crystal-Like Architectures

Croissant, J.; Cattoën, X.; Wong Chi Man, M.; Dieudonné, P.; Charnay, C.; Raehm, L.; Durand, J-O. *Advanced Materials*, **2015**, *27*, 145.

23 – Enhanced Two-Photon Fluorescence Imaging and Photodynamic Therapy of Cancer Cells via Gold@BridgedSilsesquioxane Nanoparticles

Croissant, J.; Maynadier, M.; Mongin, O.; Hugues,V.; Blanchard-Desce, M.; Chaix, A.; Cattoën, X.; Wong Chi Man, M.; Gallud, A.; Gary-Bobo, M.; Garcia, M.; Raehm, L.; Durand, J-O. *Small*, **2015**, *11*, 295.

24 – Controlled Multiple Functionalization of Mesoporous Silica Nanoparticles: Homogeneous Implementation of pairs of Functionalities Communicating through Energy or Proton Transfers

Noureddine, A.; Lichon, L.; Maynadier, M.; Garcia, M.; Gary-Bobo, M.: Zink, J. I.;,Cattoën, X.; Wong Chi Man,M. *Nanoscale accepted* **2015** (DOI:101039:C5NR02620B)

**3 Book Chapters, 4 Patents, 55 InvitedConference Presentations and 65 Seminar presentations at universities and industries**