

Curriculum Vitae

Prof. Corine MATHONIERE



Born the 3rd May 1968, in Montluçon (France)

Married, 3 children.

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Education : 2006, Habilitation à Diriger des Recherches “Photomagnetism by electron transfer in molecular compounds” University Bordeaux 1.

1993, PhD in Chemistry “Optical Spectroscopy in polynuclear compounds: complementarity with magnetic properties” University Paris XI, under supervision of Pr. Kahn Olivier and Girerd Jean-Jacques.

Positions : Sept. 1993 - July 1994, Post-Doc at Royal Institution of Great Britain, London, group of Prof. P. Day.
Oct. 1994 - Associate Professor at University Bordeaux 1. Research activities at ICMCB (CNRS).
Sept. 2010 - Professor at University Bordeaux 1. Research activities at ICMCB (CNRS).

Distinctions

Jan. 2010 Chevalière dans l’Ordre des Palmes académiques.

Oct. 2010 – 2015 Junior Member of l’Institut Universitaire de France.

Oct. 2010 – Oct. 2011 Dumont d’Urville Visiting Professor of the University of Otago, Dunedin, New Zealand.

Research Activities

Research fields : molecular magnetism – coordination chemistry– charge transfer compounds – nanosciences.

Expertise fields : Coordination chemistry, photomagnetism and magnetism in coordination compounds.

Teaching Activities

Lectures and Tutorials in General Chemistry (1st year Licence), in molecular inorganic chemistry (3rd year Licence, 1st year Master), multifunctional materials (2nd year Master), molecular magnetism (2nd Master).
Training director of the Cluster of excellence AMADEus (Advanced Materials by Design)

Supervising Activities (since 1994)

Licence 17

Master 2st year 8

Post-docs 5

phD (current) 8(1)

phD students (University Bordeaux 1):

1998 Olivier Cador *Bimetallic Molecular Compounds: ground and excited states, magnetic ordering*, supervised with Pr. O. Kahn

1999 Myrtil Kahn *Magnetic Interaction between 4f-3d and 4f-organic radical in molecular compounds : experimental and theoretical approaches*, supervised with Pr. O. Kahn

2001 Guillaume Rombaut *Photo-induced Magnetism in new materials derived from octacyanometalates*

2009 Rémy Le Bris *Magnetic and Photomagnetic of coordination compounds based on cyanometalates*.

2011 Rodica Ababei *Single-Molecule Magnets and spin crossover Compounds ; towards new magnetic materials*, supervised with R. Clérac.

2012 Ie-Rang Jeon *New photomagnetic materials built from Single-Molecule Magnets*, supervised with R. Clérac.

2013 Sergiu Calancea *Electron transfer Compounds with photomagnetic properties*, supervised with P. Rosa.

2012-2015 Evangelia Koumousi *Electron transfer Compounds with photomagnetic properties*, supervised with R. Clérac.

Publications (point h = 31, 3600 citations, Web of Sciences 26 Aug. 2013)

Publications (with chapters in books)	104 (3)
Conferences (with invited lectures)	45 (25)
Invited Seminars	27

Editorial and Refereeing Activities

Member of the Editorial Advisory Board of *Inorganic Chemistry*

Journals (*Inorg. Chem., J. Am. Chem. Soc., Angw. Chem., New. J Chem...*) Per year av. 20

National Projects (ANR) Per year av. 2

Thesis committees Per year av. 4

Selection of publications

- 1 - "Structural and Photomagnetic Studies of two compounds in the System Cu²⁺/Mo(CN)₈⁴⁻: from Trinuclear Molecule to Infinite Network" Guillaume Rombaut, Marc Verelst, Stéphane Gohlen, Lahcène Ouahab, Corine Mathonière and Olivier Kahn *Inorganic Chemistry* **2001** 40 1151-1159.
- 2 - "Reversible Photoinduced Magnetic properties in the heptanuclear complex [Mo^{IV}(CN)₈(CN-CuL₆)]⁸⁺: a photomagnetic high-spin molecule" Juan Manuel Herrera, Valérie Marvaud, Michel Verdaguer, Jérôme Marrot, Marguerite Kalisz, Corine Mathonière *Angewandte Chemie Int. Ed.* **2004** 43 5648-5650.
- 3 - "Photomagnetic nanorods of the Mo(CN)₈Cu₂ coordination polymer" Laure Catala, Corine Mathonière, Alexandre Gloter, Odile Stephan, Thierry Gacoin, Jean-Pierre Boilot, Talal Mallah *Journal of Chemical Society, Chemical Communications* **2005** 746-748.
- 4 - "Photo-induced magnetization in copper octacyanomolybdate" Shin-Ichi Ohkoshi, Hiroko Tokoro, Toshiya Hozumi, Yue Zhang, Kazuhito Hashimoto, Corine Mathonière, Isabelle Bord, Guillaume Rombaut, Marc Verelst, Christophe Cartier dit Moulin, Françoise Villain *Journal of American Chemical Society* **2006** 128, 270-277.
- 5 - "Photoinduced Superparamagnetism in Trimetallic Coordination Nanoparticules" Daniela Brinzei, Laure Catala, Corine Mathonière, Wolfgang Werndorfer, Alexandre Gloter, Odile Stephan, Talal Mallah *Journal of American Chemical Society* **2007** 129, 3778-3779.
- 6 - "Magnetic and Optical Bistability Driven by Thermally- and Photo-Induced Intramolecular Electron Transfer in a Molecular Cobalt-Iron Prussian Blue Analogue" Dongfeng Li, Rodolphe Clérac, Olivier Roubeau, Etienne Harté, Corine Mathonière, Remy Le Bris, and Stephen M. Holmes *Journal of American Chemical Society* **2008** 130, 252-258.
- 7 - "Reversible Thermally- and Photo-induced Electron Transfer in a Cyano-Bridged {Fe₂Co₂} Square Complex" Yuanzhu Zhang, Dong-Feng Li, Rodolphe Clérac, Margot Kalisz, Corine Mathonière, Stephen M. Holmes, *Angew. Chem. Int. Ed.* **2010** 49 3752-3756.
- 8 - "Photo-induced magnetic bistability in a controlled assembly of anisotropic Coordination Nanoparticules" Florence Volatron, Daniela Heurtaux, Laure Catala, Corine Mathonière, Alexandre Gloter, Odile Stephan, Diego Repetto, Miguel Clemente-Leon, Eugénio Coronado, Talal Mallah *Chemical Communications* **2011** 47, 1985-1987.
- 9 - "Investigation of the Photo-induced magnetization of copper octacyanomolybdates nanoparticules by X-ray magnetic circular dichroism" Sophie Brossard, Florence Volatron, Laurent Lismard, Marie-Anne Arrio Laure Catala, Corine Mathonière, Talal Mallah, Christophe Cartier dit Moulin, Andrei Rogalev, Fabrice Wilhem, A. Smekhova, Philippe Sainctavit, *J. Am. Chem. Soc.* **2012** 134, 222.
- 10 - « Spin crossover or intramolecular electron transfer in a cyanido-bridged Fe/Co dinuclear dumbbell : a matter of state » Ie-Rang Jeon, Sergiu Calancea, Anangohan Panja, Dalice M. Pinero Cruz, Evangelia S. Koumousi, Pierre Dechambenoit, Claude Coulon, Alain Wattiaux, Patrick Rosa, Corine Mathonière, Rodolphe Clérac *Chem Science*, **2013**, 4, 2463-2470.

Current Collaborations (in 2013)

In France :

- Dr Clérac Rodolphe, Pr Coulon Claude, CRPP CNRS UPR 8641, Pessac.
- Pr Mallah Talal, Dr Catala Laure, Pr Bleuzen Anne LCI UMR 8182, University of Paris IX, Orsay.
- Dr. Sainctavit Philippe, Dr. Arrio Marie-Anne, IMPMC, University of Paris VI.

In Poland:

- Pr Sieklucka Barbara, University of Krakow.

In Spain:

- Dr. Clemente-Leon M., Dr. Romero F., ICMol, University of Valencia.

In Roumania :

- Pr Andruh Marius, University of Bucharest.

In Japan :

- Pr Ohkoshi Shin-ichi, University of Tokyo

In USA :

- Dr Holmes Steve, University of Kentucky, Lexington.
- Pr Long Jeffrey, University of Berkeley.
- Pr Dunbar Kim, University of Texas.

In Russia :

- Pr Kushch Ludmila, Pr. Yagubskii, Eduard, Institute of Problems of Chemical Physics, Chernogolovka.

In New-Zealand :

- Pr Brooker Sally, University of Otago, Dunedin.
- Dr. Krüger, Paul, University of Christchurch, Christchurch.

In Holland :

- Dr. Stefania Tanase, Van't Hoff Institute for Molecular Sciences, University of Amsterdam.

In India :

- Pr Debashis Ray, Indian Institute of technology, Kharagpur.