

## Curriculum Vitae

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### Prof. Corine MATHONIERE



Born the 3<sup>rd</sup> 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).

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### 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.

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### Research Activities

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

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

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### Teaching Activities

Lectures and Tutorials in General Chemistry (1<sup>st</sup> year Licence), in molecular inorganic chemistry (3<sup>rd</sup> year Licence, 1<sup>st</sup> year Master), multifunctional materials (2<sup>nd</sup> year Master), molecular magnetism (2<sup>nd</sup> Master).

Training director of the Cluster of excellence AMADEus (Advanced Materials by Design)

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### Supervising Activities (since 1994)

Licence 17

Master 2<sup>st</sup> 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** Jeon 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 Koumoussi *Electron transfer Compounds with photomagnetic properties*, supervised with R. Clérac.

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### 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

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### 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

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## Selection of publications

- 1 - "Structural and Photomagnetic Studies of two compounds in the System  $\text{Cu}^{2+}/\text{Mo}(\text{CN})_8^{4-}$ : 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  $[\text{Mo}^{\text{IV}}(\text{CN})_8(\text{CN}-\text{CuL}_6)]^{8+}$ : 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  $\text{Mo}(\text{CN})_8\text{Cu}_2$  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 Nanoparticles" Daniela Brinzei, Laure Catala, Corine Mathonière, Wolfgang Wernsdorfer, 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  $\{\text{Fe}_2\text{Co}_2\}$  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 Nanoparticles" 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 nanoparticles by X-ray magnetic circular dichroism" Sophie Brossard, Florence Volatron, Laurent Lisnard, 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. Koumoussi, Pierre Dechambenoit, Claude Coulon, Alain Wattiaux, Patrick Rosa, Corine Mathonière, Rodolphe Clérac *Chem Science*, **2013**, 4, 2463-2470.

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## 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.