

## DMITRI MITCOV

### Postdoctoral Research Fellow

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### Personal details

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Date of birth February 24<sup>th</sup>, 1984 (Chişinău, Rep. of Moldova)  
Nationality Romanian  
E-mail [dmiticov@gmail.com](mailto:dmiticov@gmail.com)

### Education

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2010 – 2014 Ph.D. in *Physical chemistry of condensed matter*,  
Centre de Recherche Paul Pascal, Université de Bordeaux, France

2008 – 2010 Master Degree in *Exact Sciences*, Specialization *Coordination Chemistry*  
Faculty of Chemistry and Chemical Technology, Moldova State University

2003 – 2008 Licentiate (Bachelor of Science) in *Chemistry*, specialization – *Organic Chemistry*  
Faculty of Chemistry and Chemical Technology, Moldova State University

### Professional experience

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2007 – 2010 *Assistant-engineer* – Moldova State University, Faculty of Chemistry and Chemical Technology

2009 – 2010 *Chemistry Teacher* – Financial & Banking College of Chişinău

2008 – 2010 *Assistant-engineer* – Institute of Applied Physics of the Academy of Sciences of the Republic of Moldova

2014 – present *Postdoctoral research fellow* – Department of Chemistry, Faculty of Science, University of Copenhagen

### Awards & Grants

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2007 3<sup>rd</sup> Degree Merit Scholarship offered by Educational Advising Center and Soros Foundation

2008 2<sup>nd</sup> Degree Merit Scholarship offered by Educational Advising Center and Soros Foundation

2009 1<sup>st</sup> Degree Diploma for presentation on Master and PhD students' Scientific Conference

2010 2<sup>nd</sup> Degree Award for presentation on Scientific Conference dedicated to 64<sup>th</sup> anniversary of Moldova State University

2010 Award of the Ministry of Youth and Sports of the Republic of Moldova

2010 Municipal Youth Awards in Science, Technology, Literature and Arts offered by Municipal Council of Chişinău

2010 Mobility grant (covered 30 months of my PhD at university of Bordeaux 1) in the framework of Erasmus Mundus External Cooperation Window Lot 7 for Belarus, Moldova and Ukraine, coordinated by University of Deusto, Bilbao, Spain

2013 Student travel grant for the ECMM 2013 participation

## Teaching and supervision

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- April – June 2011: Nicolas Guillou, undergraduate student, Université Bordeaux 1, “*Synthèse de cristaux liquides magnétiques à transfert d’électron*”
- February – July 2012: Pascaline Patureau, master student, Université Bordeaux 1, “*Synthèse et caractérisation de matériaux moléculaires magnétiques à transfert d’électron*”
- December 2012 – April 2014: Evangelia Koumoussi, PhD student, Université de Bordeaux, “*Synthesis and characterization of new photomagnetic molecular materials*”
- September 2013 – April 2014: Elena Darbinean, PhD student, Université de Bordeaux, “*Functionalization of molecular magnetic materials toward magnetic liquid crystals or magnetic liquids*”
- September 2014 – June 2015: Waqas Sethi, PhD student, University of Copenhagen “*3d/4f Metal Complexes of Phenolic Oximes New Binding Sites on Anderson Polyoxometalates Metal Complexes of the New THAME Ligand*”
- August 2016: Emil Hansen, Master student, University of Copenhagen, Project outside the course scope “*Synthesis of fully deuterated Yb(trensol)*”

## Skills

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- Multi-step organic synthesis and coordination chemistry, synthesis in anaerobic conditions: Schlenk line, glove box
- FT-IR (ATR, KBr) and NMR spectroscopies
- Single crystal X-ray diffraction APEX II (data collecting and crystal structures solving)
- Small and wide angle X-ray scattering (data collecting and indexation)
- Magnetic measurements (SQUID and PPMS, ac and dc susceptibility)
- Optical measurements (temperature dependent reflectivity, absorption and emission)
- Calorimetric measurements (Differential scanning calorimetry)
- Optical microscopy under crossed-polarizer at different temperatures
- Transmission Electron Microscopy
- Management of the cryogenic fluids (Helium, Nitrogen) for physical measurements
- Participated in XAS and XMCD measurements at SOLEIL (beam line DEIMOS) and ESRF (beam line ID12) synchrotrons
- Management of the chemistry laboratory

## Areas of expertise

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- *Nanoscience*: Synthesis and characterization of Au nanoparticles and nanorods, surface functionalization
- *Coordination chemistry*: ligand design, single-molecule magnets, spin crossover materials, electron transfer complexes, photo-magnetic systems, hybrid soft matter, metal containing liquid crystals, multifunctional materials.
- *Macromolecular and organic chemistry*: monomer and polymer synthesis, polymer modification, photo-thermoplastic polymers, photo-resistive polymers.

## Conference oral presentations

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- “*Synthesis and characterization of N-vinylcarbazole copolymers with higher alkenes*”, Student Conference “Students for Students”, Cluj-Napoca, Romania, 17 – 20 April 2008
- “*Sensitization of photo-thermoplastic materials with phthalocyanines*” Master and PhD students’ conference, Moldova State University, Chişinău, Rep. of Moldova, 23 September 2009
- “*Photothermoplastic materials on the basis of N-vinylcarbazole copolymers with 4-decylstyrene*” Conference dedicated to the 64th anniversary from the foundation of the Moldova State University, Chişinău, Rep. of Moldova, 5 May 2010
- “*Synthesis and characterization of magnetic liquid crystals*” CRPP Summer Days, Pessac, France, 20 – 21 July 2011
- “*Functionalization of Cyanido-Bridged Molecular Squares: Towards a Controlled Electron Transfer in Solid and Solutions*” CRPP Summer Days, Pessac, France, 18 – 19 July 2012

- “*Functionalization of magnetic molecular materials: toward magnetic liquids and liquid crystals*” Les journées scientifiques du GdR MCM2 (Magnétisme et Commutation Moléculaires), Dourdan, France, 4 – 6 December 2012
- “*Revealing and Tuning Electron Transfer Properties by Solubilization of Cyanide-Bridged Molecular Squares*” (flash talk and poster presentation) IV<sup>th</sup> European Conference on Molecular Magnetism (ECMM 2013) Karlsruhe, Germany, 6 – 10 October, 2013
- “*Tripodal Enneanuclear Mn(III)-based Single-Molecule Magnets*” (flash talk and poster presentation) 2<sup>nd</sup> Bordeaux Olivier Kahn Discussions conference (2<sup>nd</sup> BOOK-D) Bordeaux, France, 26 – 27 May, 2016
- “*Gold Nanorod Single-Molecule Magnet Hybrids*” Cooperative Symposium among Universities of Toulouse, Copenhagen, and Okayama, Okayama, Japan, 2 September, 2016
- “*Gold Nanorod Single-Molecule Magnet Hybrids*” (flash talk and poster presentation) The 15<sup>th</sup> International Conference on Molecule-Based Magnets (ICMM 2016), Sendai, Japan, 4 – 8 September, 2016

### Selected publications in peer review journals

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1. S. F. Jafri, E. S. Koumoussi, P. Sainctavit, A. Juhin, V. Schuler, O. Bunău, D. Mitcov, P. Dechambenoit, C. Mathonière, R. Clérac, E. Otero, P. Ohresser, C. Cartier dit Moulin, M.-A. Arrio “Large Orbital Magnetic Moment Measured in the [TpFe<sup>III</sup>(CN)<sub>3</sub>]<sup>-</sup> Precursor of Photomagnetic Molecular Prussian Blue Analogues”, *Inorg. Chem.* (2016), 55, 6980.
2. T. O. Chimamkpan, R. Clérac, D. Mitcov, B. Twamley, M. Venkatesan, W. Schmitt “Structural variation in cation-assisted assembly of high-nuclearity Mn arsonate and phosphonate wheels”, *Dalton Trans.* (2016), 45, 1349.
3. H.-J. Lin, D. Siretanu, D. A. Dickie, D. Subedi, J. J. Scepaniak, D. Mitcov, R. Clérac, J. M. Smith, “Steric and Electronic Control of the Spin State in Three-Fold Symmetric, Four-Coordinate Iron(II) Complexes”, *J. Am. Chem. Soc.* (2014), 136, 13326.
4. A. Dogaru, C. Pichon, R. Ababei, D. Mitcov, C. Maxim, L. Toupet, C. Mathonière, R. Clérac, M. Andruh “New bidimensional honeycomb CoII–FeIII and brick wall FeII–CoIII cyanido-bridged coordination polymers: Synthesis, crystal structures and magnetic properties”, *Polyhedron* (2014), 75, 146
5. A. Ferguson, M. A. Squire, D. Siretanu, D. Mitcov, C. Mathonière, R. Clérac, P. E. Kruger “A Face-capped [Fe<sub>4</sub>L<sub>4</sub>]<sup>8+</sup> Spin Crossover Tetrahedral Cage”, *Chem. Commun.* (2013), 49, 1597

### Languages

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*English* – fluent; *French* – pre-intermediate; *Danish* – beginner; *Romanian* and *Russian* – native languages

### Periods of leave

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Up to date I held paternity and parental leave with Emilia (09-08-2015 to 19-09-2015)