

# CURRICULUM VITAE

## Personal data:

**Surname:** Jureschi

**First Name:** Cătălin Maricel

**Date and Place of Birth:** 05.08.1984, Pătrăuți, Romania

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## Academic:

**2012 –Present:** *Ph.D studies : Saint Quentin en Yvelines University of Versailles, France and Stefan cel Mare University of Suceava, Romania*

**Title of my Ph.D thesis:** *“Temperature and pressure sensors based on molecular spin crossover materials.”*

**Supervisors:** Professors Yasser Alayli and Jorge Linares from UVSQ, France

Professor Corneliu Octavian Turcu from USV, Romania

**2008 – 2010:** **M. Sc.** *“Computer Engineering and process control” Stefan cel Mare University of Suceava, Romania*

**2003 – 2008:** **B. Sc.** *Automation, Stefan cel Mare University of Suceava, Romania*

## Research trainings:

**2012 (two weeks):** DSC technique for spin crossover characterization - Institute of Condensed Matter and Nanosciences, Louvain la Neuve, Belgium (under the supervision of Prof. Yann Garcia).

## Personal skills and competences:

**Languages:** Romanian (mother tongue), English, French.

## Technical skills and competences:

- Experience in
  - automation techniques (LabView), DSC, Reflectance measurements, Cryogenic systems, AFM, Transport Properties (DC).
  - programming (C, Labview), modeling of bistable systems (Ising-like model), Monte Carlo.

## Grants and Contracts

Member in national grants:

- **Grant PN II-TE (Young researcher grant) – UEFISCDI (PI: Aurelian Rotaru)**
- **Grant PN-II-RU-TE-2014-4-2695 - UEFISCDI (PI: Aurelian Rotaru)**

## Conference participations

### Poster presentations:

[1] **C.M. Jureschi**, A. Graur, G.M. Rotaru, J. Linares, Y. Garcia, A. Rotaru, - 6th International Workshop on Multi-Rate Processes and Hysteresis (MURPHYS 2012), 21-24 May 2012, Suceava, Romania

[2] **C.M. Jureschi**, E Codjovi, J Linares, Y Garcia, A Rotaru - 2nd International Conference on Advanced Complex Inorganic Nanomaterials – ACIN 2013, Namur, 15-19 Juillet 2013

[3] D Chiruta, **C.M. Jureschi**, J Linares, Y Garcia, A Rotaru - DdR MCM2-Magnetism and molecular switches – Dourdan, 10-12.12.2013

[4] D. Chiruta, **C.M. Jureschi**, J. Linares, A. Graur, M. Dimian, A. Rotaru - IEEE International Magnetism Conference (INTERMAG 2014), 4-8 May 2014, Dresden, Germany

[5] D Chiruta, **C.M. Jureschi**, J Linares, PR Dahoo, Y Garcia, A Rotaru - 10th International Symposium on Hysteresis Modeling and Micromagnetics (HMM), 18/-20 May 2015 Iasi, Romania

### Oral presentation :

[1] Ionela Rusu, **Cătălin Maricel Jureschi**, Corneliu Octavian Turcu, Aurelian Rotaru - 10th International Conference on Physics of Advanced Materials – ICPAM 2014, Iasi, 22-28 September 2014

## Articles published:

- [1] D. Chiruta, **C.-M. Jureschi**, J. Linares, Y. Garcia, A. Rotaru - *Lattice architecture effect on the cooperativity of spin transition coordination polymers*, Journal of Applied Physics, vol. 115, (2014), 053523.
- [2] **C.-M. Jureschi**, I. Rusu, E Coddjovi, J. Linares, Y Garcia, A Rotaru - *Thermo- and piezochromic properties of [Fe(hyptrz)]A(2)center dot H2O spin crossover 1D coordination polymer: Towards spin crossover based temperature and pressure sensors*, Physica B-Condensed Matter, vol. 449, (2014), 47-51.
- [3] D. Chiruta, **C.-M. Jureschi**, J. Linares, A. Graur, M. Dimian, A. Rotaru - *Analysis of architecture effect on hysteretic behavior of 3D Spin Crossover Nanostructures*, IEEE Transactions on Magnetics, vol 50, (2014)
- [4] **C.M. Jureschi**, J. Linares, A. Rotaru, M.h. Ritti, M. Parlier, M.M. Dîrțu, M. Wolff, Y. Garcia *Pressure Sensor via Optical Detection Based on a 1D Spin Transition Coordination Polymer*, Sensors, 15(2), (2015), 2388-2398
- [5] D. Chiruta, **C.-M. Jureschi**, J. Linares, J. Nasser, A. Rotaru - *Analysis of SCO nanochains using parabolic approximation in the framework of Atom-phonon coupling model*, Physica B: Condensed Matter, 476, (2015), 61-70
- [6] Daniel Chiruta, **Catalin-Maricel Jureschi**, Jorge Linares, Pierre Richard Dahoo, Yann Garcia, Aurelian Rotaru - *On the Origin of Multi-Step Spin Transition behaviour in 1D nanoparticles*, Eur. Phys. J. B, 88(9), (2015), 1-5
- [7] **Catalin-Maricel Jureschi**, Benjamin-Louis Pottier, Jorge Linares, Pierre Richard Dahoo, Yasser Alayli, and Aurelian Rotaru - *Simulation of multi-steps thermal transition in 2D SCO nanoparticules*, Physica B: Condensed Matter, 486, (2016), 160
- [8] Jorge Linares, **Catalin-Maricel Jureschi**, Ayoub Boulmaali, Kamel Boukheddaden - *Matrix and size effects on the appearance of the thermal hysteresis in 2D spin crossover nanoparticles*, Physica B: Condensed Matter, 486, (2016), 164
- [9] Safin Damir A, Robeyns Koen, Babashkina Maria G., Filinchuk Yaroslav, Rotaru Aurelian, **Jureschi Catalin**, Mitoraj Mariusz P., Hooper James, Brela Mateusz and Garcia Yann - *Polymorphism driven optical properties of an anil dye*, CrystEngComm, doi 10.1039/c6ce00266h, (2016)
- [10] **Catalin-Maricel Jureschi**, Jorge Linares, Ayoub Boulmaali, Pierre Richard Dahoo, Aurelian Rotaru and Yann Garcia, *Pressure and Temperature sensors using two spin crossover materials*, Sensors, 16(2), (2016), 187

[11] **Catalin Jureschi**, Jorge Linares, Aurelian Rotaru and Yann Garcia - *Multi-Step in 3D spin crossover nanoparticles simulated by an Ising model using entropic sampling Monte Carlo technique*, Magnetochemistry, 2, (2016), 13

[12] Jorge Linares, **Catalin-Maricel Jureschi** and Kamel Boukheddaden - *Surface effects leading to unusual size dependence of the thermal hysteresis behavior in spin-crossover nanoparticles*, Magnetochemistry, 2, (2016), 24

[13] **C M Jureschi**, J Linares, P R Dahoo and Y Alayli - *Monte Carlo entropic sampling applied to Ising-like model for 2D and 3D systems*, Journal of Physics Series Conference, *In press*

[14] J Linares, D Chiruta, **C M Jureschi**, Y Alayli, C O Turcu and P R Dahoo - *Simulations of Edge Effect in 1D Spin Crossover Compounds by Atom-Phonon Coupling Model*, Journal of Physics Series Conference, *In press*

[15] Salim Guerroudj, Rafael Caballero, Francisco De Zela, **Catalin Jureschi**, Jorge Linares and Kamel Boukheddaden - *Monte Carlo - Metropolis Investigations of Shape and Matrix Effects in 2D and 3D Spin-Crossover Nanoparticles*, Journal of Physics Series Conference, *In press*

### **Patent :**

[1] D. Cernomazu, A. Graur, C. Filote, N. Sorea, B. C.Tofan, **C. M. Jureschi**, A. Cucu - *Electrostatic motor with flexible rotor, has conducting disk, and shaft supported with sliding bearings*, Patent Number(s): RO126703-A2, Patent Assignee: Univ. Suceava Stefan Cel Mare, 2011, [http://www.osim.ro/publicatii/brevete/bopi\\_2011/bopi\\_inv\\_09\\_2011.pdf](http://www.osim.ro/publicatii/brevete/bopi_2011/bopi_inv_09_2011.pdf)

**05 Sep 2016**

**Cătălin Maricel JURESCHI**

