







PERSONAL INFORMATION

**Mihai DIMIAN**



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 Sex Male | Date of birth 09/02/1975 | Nationality Romanian

WORK EXPERIENCE

2012 - present

**Vice-Rector for Scientific Activities and Professor**

Stefan cel Mare University, Suceava, Romania ([www.usv.ro](http://www.usv.ro))

- Service in University Scientific Research Strategy and Coordination, Grants Management, Community Services, International Cooperation, Accreditation and Evaluation
- Teaching in Optoelectronics, Nanoelectronics, Microwave Engineering, Data Management & Analysis, Technical Research Writing and Communications
- Research in Optoelectronics, Spintronics, Nanotechnology, Semiconductor Devices, Electromagnetism, Stochastic Modeling & Simulation, Wireless Communications

2006 – Present

**Assistant Professor (tenure-track); Associate Professor (tenured), PhD Adviser**

Howard University, Washington DC, USA ([www.howard.edu](http://www.howard.edu))

- Teaching Optoelectronics, Wireless Communications, Electromagnetics, Principles of Electronics
- Research in Electromagnetics, Optoelectronics, Computational Nanotechnology
- Service in Program Assessment, Faculty Search, ABET accreditation, Curriculum Development

2007 - 2011

**Associate Professor**

Stefan cel Mare University, Suceava, Romania ([www.usv.ro](http://www.usv.ro))

- Teaching Optoelectronics, Microwave Engineering, Data Management and Analysis
- Research in Optoelectronics, Spintronics, Nanotechnology, Semiconductor Devices, Electromagnetism, Stochastic Modeling & Simulation, Wireless Communications
- Service in Public Relation and Communication, Accreditation, Strategic Planning

2005 - 2006

**Research Fellow**

Max Planck Institute for Applied Mathematics, Leipzig, Germany ([www.mis.mpg.de](http://www.mis.mpg.de))

- Research in Multi-scale Modeling, Noise-assisted Phenomena

2001 - 2005

**Distinguished Graduate Research Assistant**

University of Maryland, College Park, USA ([www.umd.edu](http://www.umd.edu))

- Research in Magnetic Recording Nanotechnology, Semiconductor Devices, Hysteresis Modeling
- Study in Electro-physics and Communications

2001

**Research Assistant**

University of Versailles St. Quentin, Versailles, France ([www.uvsq.fr](http://www.uvsq.fr))

- Research in Magnetic Nanostructures

EDUCATION AND TRAINING

2001 - 2005

**Doctor of Philosophy in Electrical/Electronics Engineering**

ICSED 6

University of Maryland, College Park, USA

Engineering Electromagnetics, Antennas for Wireless Communications, Estimation and Detections Theory, Communication Theory, Power Electronics, Electrical Machines, Magnetism, Stochastic Analysis, Dynamical Systems, Modeling Semiconductor Devices, Hysteresis

- Knowledge and understanding of numerous topics and advanced methods of engineering
- Ability to analyze and solve open research problems under various constraints
- Ability to perform advanced research in applied sciences and engineering
- Ability to communicate effectively research results
- Ability to use advanced computer simulation in various scientific and engineering areas

1997 - 2001 **Bachelor of Science in Physics** ICSED 5

Alexandru Ioan Cuza University, Iasi, Romania

Classical and Analytical Mechanics, Acoustics, Electricity and magnetism, Optics, Spectroscopy, Lasers, Relativity Theory, Molecular Physics, Thermodynamics, Statistical Physics, Nuclear Physics, Atomic and Molecule Physics, Quantum Mechanics, Quantum Field Theory; Quantum Chromodynamics, Solid state physics, Plasma Physics, Programming, Data Processing, Modeling and Simulation of Physical Processes, Electronics, Electronic Devices and Circuits, Evolution of Fundamental Ideas in Physics, Special Topics of Magnetism, Psychology, Pedagogy, Methodology of Teaching Physics

- Knowledge and understanding of numerous topics and advanced methods of physics
- Ability to analyze problems and identify suitable physical methods to solve them
- Ability to apply physics methods in solving problems encountered in various fields
- Ability to communicate effectively using the language of physics
- Understanding of professional responsibilities, ethical and social
- Ability to use computer modeling and simulation of physical processes
- Ability to apply modern educational methods in the teaching of physics

1998 - 2000 **Master of Science in Dynamical Systems and Theoretical Mechanics** ICSED 6

Alexandru Ioan Cuza University, Iasi, Romania

Dynamical Systems, Bifurcations Theory and Chaos, Advanced Numerical Methods, Computer Simulations, Mechanics of Deformable Bodies, Elasticity and Plasticity, Stability Theory

- Knowledge and understanding of advanced topics and methods in dynamical systems and mech.
- Apply advanced methods to analyse open problems in dynamical systems and mechanics
- Ability to use computer modeling and simulation of dynamical systems

1993 - 1997 **Bachelor of Science in Mathematics** ICSED 5

Alexandru Ioan Cuza University, Iasi, Romania

Calculus, Functional Analysis, Nonlinear Analysis, Variational Analysis, Complex Analysis, Measure Theory - Probability and Statistics, Linear Algebra, Group Theory, Galois Theory, Number Theory Analytical Geometry, Projective Geometry, Differential Geometry, Algebraic Geometry Differential Equations, Partial Differential Equations; Numerical Methods; Computer Programming, Modeling and Simulation, Mechanics, Astronomy, Synergetics; Psychology, Pedagogy, Methodology of Teaching Mathematics, Teaching Practice.

- Knowledge and understanding of numerous topics and advanced methods of mathematics
- Ability to analyze problems and identify appropriate methods for solving them
- Ability to apply mathematical methods in solving problems encountered in various fields
- Ability to communicate effectively using mathematical language
- Proficient in at least one programming language and the ability to use it for scientific applications
- Ability to learn and to me alone engage in continuous professional development
- Ability to apply modern educational methods in the teaching of mathematics

**PERSONAL SKILLS**

Mother tongue(s) Romanian

| Other language(s) | UNDERSTANDING |         | SPEAKING           |                   | WRITING |
|-------------------|---------------|---------|--------------------|-------------------|---------|
|                   | Listening     | Reading | Spoken interaction | Spoken production |         |
| English           | C2            | C2      | C2                 | C2                | C2      |
| French            | B1            | B2      | A2                 | A2                | A2      |

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user  
Common European Framework of Reference for Languages

**Communication skills** Clarity and concision, Nonverbal Communication, Active Listening, Constructive Feedback, Adaptability to different types of auditorium, Humour, Empathy, Respect, Extensive experience in writing research proposals, research reports, articles and book, as well as in refereeing and editing for research journals; 2 year experience as Director of Communications and Public Relations Department at USV.

**Organisational / managerial skills** Decision making, Problem solving, Creativity, Leadership, Ability to attract and motivate colleagues, Team organizer, Extensive experience in more than 20 international and national research and development projects in various positions, including project manager/responsible for 10 international and national projects, 4-year experience as Vice-rector for Scientific Activities at USV.

**Digital competence**

| SELF-ASSESSMENT        |                 |                  |                 |                 |
|------------------------|-----------------|------------------|-----------------|-----------------|
| Information processing | Communication   | Content creation | Safety          | Problem solving |
| Proficient user        | Proficient user | Proficient user  | Proficient user | Proficient user |

## ADDITIONAL INFORMATION

## Scholarly Books

- [1] **M. Dimian** and P. Andrei, "Noise-driven phenomena in hysteretic systems," *Springer Publisher*, New York, U.S.A., 6 chapters, 233 pages, 2014, ISBN 978-1-4614-1373-8
- [2] **M. Dimian**, "Stochastic Aspects of Hysteresis" (in Romanian), *Mediamira Publisher*, Cluj Napoca, Romania, 4 chapters, 170 pages, 2010, ISBN 978-973-713-281-9
- [3] **M. Dimian**, "Nonlinear spin dynamics and ultra-fast precessional switching," *ProQuest Information and Learning*, Ann Arbor, U.S.A., 5 chapters, 141 pages, 2005, ISBN: 0-542-18364-1
- [4] (chapter) **M. Dimian** and A. Rotaru "Molecular magnetism modeling with applications in spin crossover compounds," to appear in the book "Magnetic Materials", *INTECH Publisher*, Croatia, 26 pages, 2016, ISBN: 978-953-51-4717-6
- [5] (chapter) V. Popa, E. Coca, and **M. Dimian**, "Applications of RFID Systems - Localization and Speed Measurement" in the book "Radio Frequency Identification Fundamentals and Applications Bringing Research to Practice," *INTECH Publisher*, Croatia, pp. 113-130, 2010, ISBN 978-953-7619-73-2

## Journal Articles

[Selection from the last 5 years]

- [1] A. Cailean, **M. Dimian**, "Towards Environmental-Adaptive Visible Light Communications Receivers for Automotive Applications: A Review," *IEEE Sensors Journal*, vol. 16, no. 9, pp. 2803-2811, 2016, ISI Impact factor: 1.762.
- [2] A. Cailean, **M. Dimian**, L. Chassagne, B. Cagneau, V. Popa, "Novel DSP Receiver Architecture for Multi-Channel Visible Light Communications in Automotive Applications," *IEEE Sensors Journal*, vol. 16, no. 10, pp. 3597-3602, 2016, ISI Impact factor: 1.762
- [3] I. Gudyma, V. Ivashko, **M. Dimian**, "Pressure effect on hysteresis in spin-crossover solid materials," *Physica B – Condensed Matter*, vol. 486, pp. 40-43, 2016. ISI Impact factor: 1.319
- [4] I. Gudyma, A. Maksymov, **M. Dimian**, "Hysteretic behavior of spin-crossover noise driven system," *Physica B – Condensed Matter*, vol. 486, pp. 44-47, 2016. ISI Impact factor: 1.319
- [5] A.-M. Cailean, B. Cagneau; L. Chassagne; **M. Dimian**; V. Popa "Novel Receiver Sensor for Visible Light Communications in Automotive Applications," in *IEEE Sensors Journal*, vol.15, no.8, pp.4632-4639, 2015, ISI Impact factor: 1.762.
- [6] **M. Dimian**, Andrei, P.; Mehta, M.; Idubor, OA, "Thermal relaxation in magnetic multi-layer materials with mixed hysteretic behaviour," *Journal of applied physics*, vol. 117 (17), article no.: 17A745, 2015, ISI Impact factor: 2.183
- [7] D. Chiruta, C. M. Jureschi, J. Linares, A. Graur, **M. Dimian**, A. Rotaru, "Analysis of Architecture Effect on Hysteretic Behavior of 3-D Spin Crossover Nanostructures," *IEEE Transactions on Magnetics*, vol. 50, no. 11, pp. 1-4, 2014, ISI Impact factor: 1.386
- [8] **M. Dimian**, P. Andrei, M. Grayson, "Hybrid models of hysteresis for mixed hysteretic loops in heterogeneous magnetic materials", *Journal of Applied Physics*, 115, 2014, art. 17D103. ISI Impact factor: 2,21
- [9] I. Gudyma, A. Maksymov, **M. Dimian**, "Stochastic resonance in bistable spin-crossover compounds with light-induced transitions," *Physical Review E*, vol. 90, no. 5, art. no. 052135, 2014, ISI Impact factor:
- [10] D. Chiruță, J. Linares, Y. Garcia, **M. Dimian**, P.R. Dahoo – "Analysis of multi-step transitions in spin crossover nanochains", *Physica B: Condensed Matter*, vol. 434, pp. 134-138, 2014. ISI Impact Factor: 1,327.
- [11] P. Andrei, M. Mehta, **M. Dimian** – "Modeling mixed clockwise and counter-clockwise hysteresis in multi-layer materials by using a generalized Jiles-Atherton model", *Physica B: Condensed Matter*, vol. 435, pg. 156-159, 2014. ISI Impact factor: 1,327.
- [12] D. Chiruță, J. Linares, P.R. Dahoo, **M. Dimian** – "Influence of pressure and interactions strength on hysteretic behavior in two-dimensional polymeric spin crossover compounds", *Physica B: Condensed Matter*, vol. 435, pg. 76-79, 2014. ISI Impact factor: 1,327
- [13] D. Chiruță, **M. Dimian**, Y. Alayli, J. Linares, Y. Garcia – "Role of Edge Atoms in the Hysteretic Behaviour of 3D Spin Crossover Nanoparticles Revealed by an Ising-Like Model", *European Journal of Inorganic Chemistry*, no. 29, pp. 5086-5093, 2013. ISI Impact Factor: 3,12.
- [14] I. Gudyma, A. Maksymov, **M. Dimian**, "Stochastic kinetics of photoinduced phase transitions in spin-crossover solids", *Physical Review E*, vol. 88, 2013, art. 042111. ISI Impact Factor: 2,313.
- [15] P. Andrei, **M. Dimian**, "Clockwise Jiles-Atherton hysteresis model", *IEEE Transactions on Magnetics*, 49, 7, 2013, ISI impact Factor: 1.363.
- [16] D. Chiruță, J. Linares, Y. Garcia, P.R Dahoo, **M. Dimian** – "Analysis of 3D Spin Crossover Compounds hysteretic behavior using an Ising like model", *European Journal of Inorganic Chemistry* 21, 3601-3608, 2013, ISI Impact Factor: 3.12.
- [17] **M. Dimian**, C. Lefter, "Analysis of Magnetization Switching via Vortex Formation in Soft Magnetic Nanoparticles," *Advances in Electrical and Computer Engineering*, vol. 13, no. 1, pg. 53-58, March 2013, ISI Impact Factor: 0.555.

Journal Articles (cont.)  
[Selection from the last 5 years]

- [18] D. Chiruta; J. Linares, **M. Dimian**, *et al.*, "Size Effect and Role of Short- and Long-Range Interactions on 1D Spin-Crossover Systems within the Framework of an Ising-Like Model," *European Journal of Inorganic Chemistry*, 951-957, Feb 2013, ISI impact factor: 3.045
- [19] **M. Dimian**, O. Manu, P. Andrei, "Influence of noise color on stochastic resonance in hysteretic systems" *Journal of Applied Physics* 111, 07D132 (2012), ISI impact factor: 2.072.
- [20] D. Chirută, J. Linares, P.R. Dahoo and **M. Dimian** – "Analysis of long-range interaction effects on phase transitions in two-step spin-crossover chains by using Ising-type systems and Monte Carlo entropic sampling technique", *Journal of Applied Physics*, vol. 112, art. no. 074906, pg. 1-7 (2012), ISI impact factor: 2.072.
- [21] O. Manu, **M. Dimian**, A. Graur, "Radiation Pattern Analysis and Advanced Phase Shifter Development for designing Phased Smart Antenna Arrays", *Elektronika ir elektrotehnika*, vol. 17 (1), p.: 105-110 (2012), ISI impact factor = 0,913
- [22] **M. Dimian**, P. Andrei, O. Manu, V. Popa, "Comparison of noise-induced resonances for different models of hysteresis", *IEEE Transactions on Magnetics*, vol. 47, no. 10, p. 3825-2838 (2011) ISI impact factor: 1.061.
- [23] I.M. Cirus, **M. Dimian**, A. Graur, "LED-photoresistor mechanical-electrical optoisolator transducer", *Journal of Optoelectronics and Advanced Materials*, vol. 13, no. 8, p. 1037-1044, (2011) ISI impact factor: 0.412.
- [24] **M. Dimian**, P. Andrei, "Noise induced resonance phenomena in stochastically driven hysteretic systems", *Journal of Applied Physics* vol. 109, no. 07D330 (2011), ISI impact factor: 2.072
- [25] A. Gindulescu, A. Rotaru, J. Linares, **M. Dimian**, J. Nasser, "Metastable states at low temperature in spin crossover compounds in the framework of the atom-phonon coupling model", *Polyhedron*, vol. 30 no. 18, p.: 3186-3188 (2011) ISI impact factor: 2.033.

## Citations

More than 400 research citations

## Project Director

- [1] Analysis of noise and fluctuations induced phenomena in spintronics and semiconductor nanodevices, Romanian National Research Contract - Young Research Teams, no. 107/06.08.2010, Budget: 547 000 RON, Period: 1.07.2011 – 30.06.2014
- [2] Constructive and disruptive effects of noise in nonlinear systems with hysteresis, European Framework 7 – Marie Curie Actions, contract no. 224904/1.05.2008, Budget: 100 000 Euro, Period: 01.05.2008–30.04.2012
- [3] Dynamic and stochastic analysis of nonlinear hysteretic systems with application in data storage nanotechnology and smart nanomaterial design, Romanian National Research Grant no. 13/1.10.2007, Buget : 510 000 RON, Period: 1.10.2007-30.09.2009
- [4] Analysis of magnetization dynamics and relaxation in magnetic memories, Howard University Grant for Academic Excellence, Budget: 24 000\$, Period: 01.01 -31.12.2007
- [5] Physics based land mine detection algorithms using hyperspectral images; U.S. Army High Performance Computing Research Center, no. 033893, Budget: 78 000\$, Period: 01.01.2006-31.12.2006, Co-PI: Dr. John M. M. Anderson, Dr. Mihai Dimian, Dr. Wayne Patterson;
- [6] Mathematical models for magnetism, Max Planck Institute for Applied Mathematics, Leipzig, Germany; Budget: 50 000 Euro; Period: 01.10.2005-30.09.2006

## Project Responsible

- [7] LHCb – studies of hadron production, heavy flavour physics and the upgrade program , Romanian National Research Contract, Romania – CERN Collaborations, Period: 2016-2018, Coordinated Budget: 696 189 lei
- [8] LHCb – from strangeness to b hadron physics and beyond, Romanian National Research Contract, Romania – CERN Collaborations, 2015, Coordinated Budget: 192 000 lei
- [9] Development of reconfigurable system for smart building control and management of energy sources generated by renewable sources, Innovative Cluster EURONEST, European Structural Fund POSCCE, Period: 2014-2015, Coordinated Budget: 203 918 lei

## Scientific Coordinator

- [10] Integrated Center for research, development and innovation in Advanced Materials, Nanotechnologies, and Distributed Systems for fabrication and control, Sectoral Operational Program for Increase of the Economic Competitiveness co-funded from the European Regional Development Fund. Period: 2015, Budget: 31 460 699 lei
- [11] Bayesian Imaging and Advanced Signal Processing for Landmine and IED Detection Using GPR, US Army Research Office, Period: 2011-2016, Budget: 2 500 000 \$, Howard University Electromagnetics Group Coordinator

## Grant Member

Involved in additional 12 research and development grants (4 in USA and 8 in U.E.)

## Honours &amp; Awards

- Constantin Miculescu Prize of Romanian Academy (2014)
- 3<sup>rd</sup> Prize – Romanian Researcher of the Year, Dinu Patriciu Foundation (2009)
- Faculty of the Year, Student Council, College of Engineering, Arch. & Computer Sc. (2008)
- Service Award, ECE Department, Howard University (2008)
- Distinguished Research Assistant, University of Maryland, College Park (2002, 2003, 2004)