

Elena Vasilica GAFTON

Curriculum Vitae



Birth date: 31 of Mars 1989
Place of birth: Piatra Neamt
Home address: 29C Zidarului, Dumbrava Rosie, judetul Neamt
E-mail: gafton.vasilica@gmail.com
Mobile: 004 0743391301

Education and Qualifications

10/2013 - PhD student at Alexandru Ioan Cuza University from Iasi, Faculty of Physics
2010-2013 **Master** degree at Alexandru Ioan Cuza University from Iasi, Faculty of Physics, specialisation Advanced Materials – Nanotechnologies (13 students) July 2013 – 10/10
2007-2010 **Bachelor** degree at Alexandru Ioan Cuza University from Iasi, Faculty of Physics, specialisation Computational-Physics (30 students) July 2010 – 9.50/10
2003-2007 **Baccalaureate** at Gheorghe Cartianu Technical Highschool from Piatra Neamt, specialisation „Calculation Techniques- Computers” (June-July 2007 – 7.94/10)

Languages English (good), French (medium)
Romanian (native)

General and professional software: Microsoft Office Pack (advanced), Origin (advanced), Labview (beginner)

Experiences and internships

Summer School: *Ninth International Accelerator School for Linear Colliders*, 26 Octombrie – 6 Noiembrie 2015 Whistler, British Columbia, Canada
Warm and Cold RF courses: ILC, CLIC, linac basics and instrumentation basics, (1) normal conducting RF, (2) superconducting RF, (3) instrumentation, and (4) LLRF and high power RF.

COIMBRA - UNICA joint PhD training workshop: *Navigating your career* held at Centre for Advanced Academic Studies of the University of Zagreb on 18-21 October, 2015 at Dubrovnik, Croatia

10-25/06/2015 Internship at Institut of Nanoscience of Paris. Research activities on the influence of highly charged ions on structural and magnetic properties of zinc ferrite nanoparticles. Technical skills: XRD, VSM, SQUID

09-12/2014 Internship at Institut of Nanoscience of Paris. Research activities on the influence of highly charged ions on structural and magnetic properties of zinc ferrite thin films. Technical skills: PLD, Profilometry, SEM, XRD, AFM, MFM, MOKE, VSM, SQUID

Summer School: *Eighth International Accelerator School for Linear Colliders*, 04-15 of December 2013, Antalya, Turkey

Accelerator physics courses: ILC, CLIC, linac basics and instrumentation basics, damping rings and ring colliders, beam delivery system and beam-beam effects.

01-07/2012 Internship at Institut of Nanoscience of Paris. Technical skills: MBE, MFM, AFM, MOKE, XRD, VSM. Research activities on the influence of highly charged ions on structural and magnetic properties of MnAs thin films

09-12/2011 Research activity: photoluminescence, Kerr effect, local and non-local spectroscopies (Scanning Tunnelling Spectroscopy, IR, Raman, Neutron Spectroscopy at Brillouin Laboratory, XPS using beamline TEMPO at SOLEIL Synchrotron)

2011-2012 Master student at Pierre and Marie Curie University from Paris, Faculty of Physics, specialisation NANOMAT (10 students)

02-07/2011 Erasmus student at University of Patras, Greece. Research activity in Organic & Inorganic Semiconductors Laboratory. Technical skills: preparation of thin magnetic films by spin coating, characterization of structural properties

06-09/2009 Erasmus Placement at University of Patras, Greece

2009 / 2010 Research activity in Inorganic Chemistry Laboratory at Alexandru Ioan Cuza University from Iasi

2009 – 2016 Teaching physics knowledge for 13-18 years old pupils

2009 – 2016 Participation in conferences

1. **E.V. Gafton**, G.A. Bulai, I. Dumitru, O.F. Călțun, S. Cervera, M. Trassinelli, D. Vernhet, 13th IEEE ROMSC in Iasi, IEEE Magnetics Society Chapter of the Romania Section 14 Iunie 2016 *Influence of ion irradiation on properties of zinc ferrite nanostructures irradiated by slow highly charged ions* – invited.

2. **E.V. Gafton**, G.A. Bulai, I. Dumitru, O.F. Călțun, S. Cervera, M. Trassinelli, D. Vernhet, 14 Mai 2016, National Conference Physics and Modern Educational Technologies, Iasi, *Influence of ion irradiation on properties of zinc ferrite nanostructures irradiated by slow highly charged ions* – oral

3. M. Trassinelli, M. Marangolo, S. Cervera, A. Bartok, L. Bernard Carlsson, L. Bessais, M. Eddrief, V. Etgens, **V. Gafton**, E. Lamour, M. LoBue, A. Lévy, S. Macé, F. Mazaleyrat, A. Pasko, C. Prigent, J.P. Rozet, S. Steydli, K. Zehani, Y. Zheng, D. Vernhet, 13th Joint MMM-Intermag Conference, 11-15 Ianuarie 2016, San Diego, California - *Suppression of the Thermal Hysteresis in Magnetocaloric Thin Films by Highly Charged Ion Bombardment* - poster

4. **E.V. Gafton**, O.F. Călțun, 24 octombrie 2015 Conferința Științifică Studentească FARPHYS 2015, Iasi: *Contributions to the study of magnetic properties of materials in interaction with high energy ionic beams* – poster

5. M. Trassinelli, M. Marangolo, S. Cervera, L. Bernard Carlsson, M. Eddrief, V. Etgens, **V. Gafton**, E. Lamour, A. Lévy, S. Macé, C. Prigent, J.P. Rozet, S. Steydli, Y. Zheng, D. Vernhet, pentru participarea in cadrul „SPARC Topical Workshop 2015” 22 - 28 Septembrie, Creta, Grecia, *Highly charges ions impact, a promising route to exploit the refrigeration power of giant magnetocaloric thin films* – poster

6. **E.V. Gafton**, G. Bulai, I. Dumitru, B. P. Rao, O. F. Călțun, 7th International Workshop on Amorphous and Nanostructured Magnetic Materials ANMM 2015” 21-24 September 2015, Iași, *Pulsed laser deposition of Cu doped cobalt ferrite thin films* – poster

7. **Vasilica Gafton**, Georgiana Bulai, Ioan Dumitru, Ovidiu Călțun, Sophie Cervera, Martino Trassinelli, Dominique Vernhet, YUCOMAT 2015, Herceg Novi, August 31, 2015 - *Magnetic properties of zinc ferrite thin films irradiated by slow highly charged ions*- poster

8. Georgiana Bulai, **Vasilica Gafton**, Ioan Dumitru, B. Parvatheeswara Rao, Ovidiu F. Călțun, YUCOMAT 2015, Herceg Novi, August 31, 2015 - *Copper doped cobalt ferrite thin films obtained by pulsed lased deposition*- poster

9. S. Cervera, M. Trassinelli, M. Marangolo, L. Bernard-Carlsson, M. Eddrief, V.H. Etgens, **V. Gafton**, S. Hidki, E. Lacaze, E. Lamour, C. Prigent, J.P. Rozet, S. Steydli, Y. Zheng, D. Vernhet, 22-28 Iulie 2015 Toledo, Spain: XXIX International Conference on Photonic, Electronic and Atomic Collisions, *Impacts of highly charged ions as seeds in a magneto-structural phase transition of magnetocaloric thin films* - oral

10. **Elena Vasilica Gafton**, Ioan Dumitru, Radu Ciocarlan, Sophie Cervera, Martino Trassinelli, Ovidiu Florin Călțun, Aurel Pui, Rolf Hempelmann, Dominique Vernhet, 7-10 Iulie, 2015: 8th International Conference On Advanced Materials, ROCAM, Bucuresti, *Characterization of zinc ferrite nanopowders irradiated by slow highly charged ions* – poster

11. **E.V. Gafton**, G.A. Bulai, I. Dumitru, O.F. Călțun, S. Cervera, M. Trassinelli, D. Vernhet, 5-10 Iulie, 2015: 20th International Conference on Magnetism ICM, Barcelona, *Structural and magnetic properties of zinc ferrite thin films irradiated by slow highly charged ions* – poster

12. **Elena Vasilica Gafton**, Radu Ciocarlan, Sophie Cervera, Martino Trassinelli, Ovidiu Florin Călțun, Aurel Pui, Rolf Hempelmann, Dominique Vernhet, 19 iunie 2015, Sesiunea Științifică Anuală de la Facultatea de Fizică a Universității din București - *Characterization of zinc ferrite nanopowders irradiated by slow highly charged ions* - oral

13. Martino Trassinelli, Massimiliano Marangolo, Louis Bernard-Carlsson, Sophie Cervera, Mahmoud Eddrief, Victor H Etgens, **Elena Vasilica Gafton**, Sarah Hidki, Emmanuelle Lacaze, Emily Lamour, Christophe Prigent, Jean Pierre Rozet, Sebastien Steydli, Yulin Zheng, Dominique Vernhet, 18 – 21 Mai, 2015: 9th International Symposium on Swift Heavy Ions in Matter, Darmstadt, Germania, *Properties' modifications of giant magnetocaloric thin films with highly charged ions* – poster

14. **E.V. Gafton**, G.A. Bulai, I. Dumitru, O.F. Călțun, S. Cervera, M. Trassinelli, D. Vernhet, 16 Mai 2015, National Conference Physics and Modern Educational Technologies, Iasi, *Characterization of zinc ferrite nanostructures irradiated by slow highly charged ions* - poster
15. 10th International Conference On Physics Of Advanced Materials (ICPAM-10) 22-28 Septembrie 2014, Iași, *The influence of concentration of coprecipitation agent on structural and magnetic properties of Zn ferrite nanoparticles* - poster
16. 10th European Conference on Magnetic Sensors and Actuators Vienna, Austria, 6 - 9 Iulie, 2014, *Synthesis of manganese iron oxides for sensor application* - poster
17. 14th International Balkan Workshop on Applied Physics, Constanța, 2-4 Iulie 2014, *Synthesis and characterization of manganese ferrites nanopowders* - poster
18. Conferința Internațională Electroceramics XIV, 16-20 Iunie 2014, Bucuresti, *Comparative study of magnetic properties manganese ferrites nanoparticles obtained with different combustion agents* - poster
19. Conferința IEEE ROMSC 13-14 Iunie 2014, Iași *Influence of combustion agents on synthesis process of manganese ferrites* - poster
20. National Conference Physics and Modern Educational Technologies, 16 -17 Mai 2014, Iași, *Synthesis and characterization of manganese ferrites nanopowders* - poster
21. National Conference of Scientific Documents and Reports “Ștefan Procopiu” 11-12 April 2014, Piatra Neamt, *Synthesis of manganese ferrites by autocombustion method* - poster
22. IEEE ROMSC 2-3 September 2013, Iasi, Romania - *Structural and magnetic properties changes of thin magnetic films due to Ne^{9+} irradiation* - oral presentation
23. National Conference of Scientific Documents and Reports “Ștefan Procopiu” 5-6 April 2013, Piatra Neamt, Romania - *Hydrogen passivation effect on ZnO powder* - oral presentation
24. 19th International Workshop on Inelastic Ion-Surface Collisions (IISC-19) 16 - 21 September 2012, Frauenchiemsee, Germany - *Magnetic properties modifications of ferromagnetic films of MnAs irradiated with highly charged ions* - oral presentation
25. National Conference of Scientific Documents and Reports “Ștefan Procopiu” 24-25 Mars 2012, Piatra Neamt - *Characterization of MnAs films irradiated with Ne^{9+} ions* - poster
26. Annual Conference of Doctoral Schools October 2011, Iași, Romania - *Optical and electrical properties of zinc oxide thin films doped with transition metals* - oral presentation
27. 12th International Workshop on Applied Physics (IBWAP) 07/2011, Constanța, Romania - *Diluted magnetic semiconductors based on doped zinc oxide thin films* - poster
28. National Conference Nanostructured Multifunctional Materials 2010, Iasi, Romania - *Synthesis and characterization of nanocrystalline Ni-Zn ferrite doped with Dy* - poster
29. International Balkan Workshop on Applied Physics 07/2010, Constanta - *A new approach of physics classroom activities* - poster
30. IEEE ROMSC 2010, Iasi - *The influence of Ni content on the electrical and magnetic properties of Ni-Zn ferrites* - poster
31. National Conference Physics and Modern Educational Technologies 2010, Iasi
- The Correspondence of Theater Semiotics in Science Teaching* - oral presentation
 - Magnetism - Electromagnetism Teaching electromagnetic phenomena* - poster
32. International Conference of applied sciences. Chemistry and Chemical Engineering 2010, Bacau, Romania - *The influence of Ni content on the electrical and magnetic properties of Ni-Zn ferrites* - poster
33. Workshop on Fundamental and Applied Research in Physics October 2009, Iasi - *Study on the conductivity of $(CoMn_{0.2}Fe_{1.8}O_4)_x(BaTiO_3)_{1-x}$* - poster
34. National Conference Physics and Modern Educational Technologies May 2009, Iasi
- The influence of dopants on the Curie temperature of Co ferrite* - poster
 - Preparation and physical characterization of cobalt-ferrite submicron particles* - poster
 - Studiul pârgiilor - aspecte metodice ale predării la clasa a VII-a* - poster

35. National Conference Physics and Modern Educational Technologies May 2008, Iasi - *The electrography* - poster

36. National Conference Physics and Modern Educational Technologies April 2007, Iasi - *Procopiu effect* - oral presentation

Scientific publications

1. **E.V. Gafton**, G.A. Bulai, O.F. Caltun, S. Cervera, S. Macé, M. Trassinelli, S. Steydli, D. Vernhet *Structural and magnetic properties of zinc ferrite thin films irradiated by slow highly charged ions* - Journal of Applied Surface and Science, 379 (2016) 171–178 doi: 10.1016/j.apsusc.2016.04.035.

2. S. Cervera, M. Trassinelli, M. Marangolo, L. Bernard Carlsson, M. Eddrief, V.H. Etgens, **V. Gafton**, S. Hidki, E. Lamour, A. Levy, S. Mace, C. Prigent, J.-P. Rozet, S. Steydli, Y. Zheng and D. Vernhet - Journal of Physics: Conference Series 635 (1), 012028 (2015) 012028 doi:10.1088/1742-6596/635/1/012028 *Hints on the origin of the thermal hysteresis suppression in giant magnetocaloric thin films irradiated with highly charged ions.*

3. Cervera, S. , Trassinelli, M. , Marangolo, M., Bernard-Carlsson, L., Eddrief, M., Etgens, V.H., **Gafton, V.**, Hidki, S., Lacaze, E., Lamour, E., Prigent, C., Rozet, J.-P., Steydli, S., Zheng, Y., Vernhet, D. - Journal of Physics: Conference Series 635 (3), 032021; DOI: 10.1088/1742-6596/635/3/032021 *Impacts of highly charged ions as seeds in a magneto-structural phase transition of magnetocaloric thin films.*

4. Trassinelli, M., Marangolo, M., Eddrief, M., Etgens, V.H., **Gafton, V.**, Hidki, S., Lacaze, E., Lamour, E., Prigent, C., Rozet, J.-P., Steydli, S., Zheng, Y., Vernhet, D. - Applied Physics Letters 104 (8), 81906 DOI: 10.1063/1.4866663 Appl. Phys. Lett. 104, 081906 (2014); <http://dx.doi.org/10.1063/1.4866663> - *Suppression of the thermal hysteresis in magnetocaloric MnAs thin film by highly charged ion bombardment*

5. Trassinelli, M. , **Gafton, V.E.**, Eddrief, M., Etgens, V.H., Hidki, S., Lacaze, E., Lamour, E., Luo, X., Marangolo, M., Mérot, J., Prigent, C., Reuschl, R., Rozet, J.-P., Steydli, S., Vernhet, D. Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, <http://dx.doi.org/10.1016/j.nimb.2013.04.025> - *Magnetic properties of MnAs thin films irradiated with highly charged ions*

6. Materials Research Bulletin, Volume 46, Issue 9, September 2011, Pages 1455-1460 - *Synthesis and characterization of nanocrystalline Zn ferrites substituted with Ni*

7. Scientific Romanian Journal V. Adamachi

http://vadamachi.faculty.ro/search.php?what=&what_author=gafton

- a. *The Correspondence of Theater Semiotics in Science Teaching* Vol. XIX, nr. 1/2010
- b. *Magnetism - Electromagnetism Teaching electromagnetic phenomena* Vol. XIX, nr. 1/2010
- c. *Studiul pârghiilor - aspecte metodice ale predării la clasa a VII-a*, Vol. XIX, nr. 1/2010
- d. *Electrografia* 2008
- e. *Efectul Procopiu* 2007

Iasi, September 2016

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