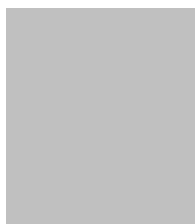



PERSONAL INFORMATION Victor LECA



 Extreme Light Infrastructure - Nuclear Physics (ELI-NP)
 Horia Hulubei National Institute for Physics and Nuclear Engineering,
 30 Reactorului Street, P.O. Box MG-6,
 077125 Magurele, Ilfov county, ROMANIA

 0752270189

 victor.leca@eli-np.ro

Sex M | Date of birth 05/11/1966 | Nationality Romanian

POSITION WITHIN THE PROJECT Responsible for the activities related to the fabrication and characterization of thin films within ELI-NP

WORK EXPERIENCE

- | | |
|-----------------------|--|
| February 2015-present | <p>Senior researcher II degree, Head of the ELI-NP Targets Laboratory
 ELI-NP/ IFIN-HH, Magurele-Bucharest</p> <ul style="list-style-type: none"> ▪ Responsible for: fundamental physics studies with high power lasers and positrons; analytical studies with positrons; setting up the Targets fabrication and characterization laboratory for experiments with high-power lasers and gamma-ray beams; applications in materials, physics, space engineering, and life sciences of PW lasers and/or gamma rays; setting up the PAES system for the Positron Laboratory; metallic, oxides, nitrides, multilayer thin film fabrication by RF/DC sputtering, PLD, e-beam deposition; characterization of solid targets by XRD, SEM, AFM, XPS, EDS; optical and e-beam lithography; supervision of students. |
| June 2014-Jan. 2015 | <p>Senior researcher III degree
 ELI-NP/ IFIN-HH, Magurele-Bucharest</p> <ul style="list-style-type: none"> ▪ Responsible for the Targets Laboratory, TDR on positron production, and PAES setup of the Positron Laboratory |
| March 2011-May2014 | <p>Senior researcher II degree
 National Institute for Research and Development in Microtechnologies, IMT – Bucharest</p> <ul style="list-style-type: none"> ▪ Responsible for: fabrication of complex oxides (by pulsed laser ablation and RF/DC sputtering), their structural characterization, electrical transport and magnetic properties, and applications to devices for renewable energy, medicine, space. |
| June2006-May2014 | <p>Senior researcher III degree
 University Polytechnic of Bucharest, Faculty of Applied Chemistry and Materials Science, Bucharest</p> <ul style="list-style-type: none"> ▪ Responsible for: fabrication and physical-chemical characterization of oxide based nanostructures, device fabrication; training of students; projects management; supervision of Master and PhD students. |
| Jan2004-Dec.2011 | <p>Postdoctoral research fellow
 University of Tübingen, Institute of Physics, Experimental Physics II Department, Tübingen, Germany</p> <ul style="list-style-type: none"> ▪ Responsible for: fabrication and characterization of thin films and superlattices with superconducting, ferromagnetic, dielectric, ferroelectric properties; training of students in thin film growth methods (PLD, sputtering, e-beam evaporation), and characterization tools (X-ray diffraction, Reflection High Energy Electron Diffraction, Atomic Force Microscopy, magnetic and electric transport properties down to 4.2K), device fabrication, optical lithography. |

- Jan1999-Dec.2003 **PhD student and Postdoctoral research fellow**
 University of Twente, Faculty of Science and Technology and MESA+ Institute for Nanotechnology, Enschede, The Netherlands
- Responsible for: research on thin film growth (mainly) by pulsed laser ablation (PLD), characterization and applications of oxide-based nanostructures.
- Sept1994-Dec1998 **Chemical engineer and assistant researcher**
 Research and Development Institute for Electrical Engineering (ICPE SA), Bucharest, Romania
- Responsible for: research on bulk synthesis and physical-chemical characterization of high-T_c superconductors; phase diagrams of oxide-based systems

EDUCATION AND TRAINING

- 1999-2003 **PhD diploma in Materials Science**
 University of Twente, Faculty of Applied Physics, Low Temperature Division and MESA+ Research Institute, Enschede, The Netherlands
- pulsed laser ablation (PLD), characterization (structural, morphological, transport properties) and applications of complex oxides thin films
- 1995-1996 **Master degree in Oxide Materials Science**
 University Polytechnic of Bucharest, Faculty of Industrial Chemistry, Materials Science Department, Bucharest
- Materials science, inorganic chemistry, structural characterization, electrical and magnetic properties of oxide materials (crystalline or amorphous)
- 1989-1994 **Bachelor degree/Chemical engineer**
 University Polytechnic of Bucharest, Faculty of Industrial Chemistry, Materials Science Department, Bucharest
- Inorganic chemistry, materials science, chemical engineering
- 2013 German Research Foundation (DFG) research grants (2 grants of two weeks each)
 University of Tübingen, Institute of Physics, Tübingen, Germany.
- Research topic: Fabrication and transport properties of Superconducting Quantum Interference Devices (SQUIDs) based on Sr_{1-x}La_xCuO₂ compounds
- 2004 European Science Foundation (ESF) research grant (2.5 months) within PiShift program
 University of Twente, Inorganic Materials Science Group, The Netherlands.
- Research topic: Development of technology for fabrication of Sr_{1-x}La_xCuO₂-based Josephson junctions
- 1999 European Science Foundation (ESF) research grant (1 week)
 Oxfordshire Neutron Diffraction Laboratory, UK
- Research topic: Oxygen network in (Ba,Sr)CuO₂-CaCuO₂ thin film superlattices
- 1998 NUFFIC research grant (3 months) and Romanian Ministry of Education research grant (9 months)
 University of Twente, Faculty of Applied Physics, Low Temperature Division, Enschede, The Netherlands
- Research topic: Synthesis, structural and electrical transport properties of new phases in the SnO₂-SrO(BaO)-CuO systems
- 1995 TEMPUS research grant (10 months)
 Politecnico di Torino, Dipartimento di Scienza dei Materiali e Ingegneria Chimica, Torino, Italy
- Research topic: Phase diagram of the BaO-Bi₂O₃ binary system: synthesis and characterization of new phases
- 1994 TEMPUS undergraduate scholarship (3 months)
 Centre de Recherches de l'Industrie Belge de la Ceramique-CRIBC, Mons, Belgium.

- *Research topic:* Structural and mechanical properties of Hot-Pressed Si₃N₄

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
	Replace with name of language certificate. Enter level if known.				
Italian	B1	B1	B1	B1	B1
	Replace with name of language certificate. Enter level if known.				
French	B1	B1	B1	B1	B1
	Replace with name of language certificate. Enter level if known.				

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

Communication skills ▪ good communication skills gained through my work as a researcher in multicultural research groups, and as project manager

Organisational / managerial skills ▪ leadership – scientific advisor for Master and PhD students;
 ▪ research projects management

Job-related skills

- artificial oxide nanostructures/superlattices with tailored properties (e.g., superconducting, multiferroics) by pulsed laser deposition (PLD) and pulsed laser interval deposition (PLiD);
- fabrication of multi-scale nanostructures by means of PLD for novel devices;
- tunneling spectroscopy and mechanism of Cooper pairs and quasiparticle tunneling in Josephson junctions (grain boundary, planar, ramp-type) based on high critical temperature superconductors (HTSc);
- development of technology for fabrication of dc-SQUIDs (Superconducting Quantum Interference Device) from electron-doped HTSc materials;
- *in-situ* studies of the nano-growth mechanisms, morphology evolution, surface reconstruction of complex oxide thin films using high-pressure RHEED;
- interface studies of oxide heterostructures using XRD and HRTEM;
- advanced characterization of oxide nanostructures using RHEED, XRD, AFM, HRTEM;
- magnetic and electrical-transport properties of oxide thin film heterostructures and devices down to 4.2 K;
- physics of hybrid oxide-metal nanomaterials and nanodevices;
- application of complex oxide nanomaterials and devices to materials science, physics, space application, and medicine;
- synthesis and physical-chemical characterization of low- or high-critical temperature superconductors, dielectric, ferroelectric, ferromagnetic, or multiferroic materials, in bulk (by solid-state reactions or from sol-gel) or thin films (by PLD or sputtering);
- development of new synthesis methods/processes based on PLD and PLiD for fabrication of complex oxides or alloy thin films (e.g., YBa₂Cu₃O₇, Sr_{1-x}La_xCuO₂, MgB₂, SrRuO₃, BaTiO₃, SrTiO₃, La_{1-x}Ce_xMnO₃, La_{1-x}Ca_xMnO₃) with controllable

morphological, structural, magnetic, and electrical transport properties suitable for their application to devices;

- development of chemical and physical etching methods for oxide-based, single crystal substrates (e.g., SrTiO₃, NdGaO₃, LSAT, KTaO₃, SrLaAlO₃, DyScO₃) in order to control the surface terminating layer and for yielding atomically flat surfaces (controlled morphology);
- development or improvement of the technology for the fabrication of grain boundary or ramp-type Josephson junctions based on high critical temperature superconductors;
- characterization tools: X-ray diffraction, X-ray fluorescence, Reflection High Energy Electron Diffraction, neutron diffraction, Scanning Electron Microscopy, Transmission Electron Microscopy, Atomic Force Microscopy, Energy dispersive X-ray spectroscopy, Differential thermal analysis;
- surface studies using analytical methods based on positrons;
- optical lithography;
- phase diagrams studies of oxide-based systems (binary, ternary, quaternary);
- failure analysis of HIP-Si₃N₄ ceramics;
- clean-room experience;
- setting-up large laboratories;
- training of students.

Digital competence

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

Levels: Basic user - Independent user - Proficient user
[Digital competences - Self-assessment grid](#)

Replace with name of ICT-certificate(s)

- good command of office suite (word processor, spread sheet, presentation software)

Other skills

Analytical and research skills; flexibility and adaptability in managing multiple priorities; communications skills (listening, verbal, written); management skills; problem solving; creativity; team player; multicultural awareness; computer and technical skills.

Driving licence B

ADDITIONAL INFORMATION

Publications

1. V. Leca, N. D. Scarisoreanu, M. Dinescu, Microstructural and electrical transport properties of RBa₂Cu₃O_{7-y} (R=Y, Pr) based thin films and ramp-type Josephson junctions, Romanian Reports in Physics **72**, 506 (2020)
2. Vladimir Lucian Ene, Doru Dinescu, Nikolay Djourellov, Iulia Zai, Bogdan Stefan Vasile, Andreea Bianca Serban, Victor Leca, and Ecaterina Andronescu, Defect Structure Determination of GaN Films in GaN/AlN/Si Heterostructures by HR-TEM, XRD, and Slow Positrons Experiments, Nanomaterials **10**, 197 (2020)
3. Vladimir Lucian Ene, Doru Dinescu, Iulia Zai, Nikolay Djourellov, Bogdan Stefan Vasile, Andreea Bianca Serban, Victor Leca, and Ecaterina Andronescu, Study of Edge and Screw Dislocation Density in GaN/Al₂O₃ Heterostructure, Materials **12**, 4205 (2019)

4. F. Andrei, I. Boerasu, R. Birjega, A. Moldovan, M. Dinescu, V. Ion, C. Mihailescu, N. D. Scarisoreanu, and V. Leca, The effects of the oxygen content on the photoelectrochemical properties of LaFeO_3 perovskite thin films obtained by pulsed laser deposition, *Applied Physics A* **125**, 807 (2019)
5. N. Djourellov, D. Dinescu, and V. Leca, An overview of the design of ELIPSA-A new slow positron beam line, *Nuclear Instruments & Methods in Physics Research Section A-Accelerators, Spectrometers, Detectors, and Associated Equipment* **934**, 19 (2019)
6. I. Prencipe et al, Targets for High repetition rate laser facilities: needs, challenges and perspectives, *High Power Laser Science and Engineering* **5**, e17 (2017)
7. C. C. Gheorghiu, V. Leca, D. Popa, M. O. Cernaianu, and D. Stutman, Overview on the target fabrication facilities at ELI-NP and ongoing strategies, *Journal of Instrumentation* **11**, C10011 (2016)
8. F. Negoita et al., Laser driven nuclear physics at ELI-NP, *Romanian Reports in Physics* **68**, S37 (2016)
9. N. Djourellov, C. Hugenschmidt, S. Balascuta, V. Leca, A. Oprisa, C. Piochacz, C. Teodorescu, C. A. Us, *Romanian Reports in Physics* **68**, S735 (2016)
10. N. Djourellov, A. Oprisa, V. Leca, Source of slow polarized positrons using the brilliant gamma beam at ELI-NP. Converter design and simulations, *Nuclear Instruments & Methods in Physics Research Section A-Accelerators, Spectrometers, Detectors, and Associated Equipment* **806**, 146 (2016)
11. S. Scharinger, M. Turad, A. Stöhr, V. Leca, E. Goldobin, R. G. Mints, D. Koelle, and R. Kleiner, Magnetic field dependence of the critical current in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}/\text{Au}/\text{Nb}$ ramp-zigzag Josephson junctions, *Physical Review B* **86**, 144531 (2012)
12. J. Tomaschko, S. Scharinger, V. Leca, J. Nagel, M. Kemmler, T. Selistrovski, S. Diebold, J. Jochum, R. Kleiner, and D. Koelle, Phase-sensitive evidence for $d_{x^2-y^2}$ -pairing symmetry in the parent-structure high- T_c cuprate superconductor $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$, *Physical Review B* **86**, 094509 (2012)
13. J. Tomaschko, V. Leca, T. Selistrovski, S. Diebold, J. Jochum, R. Kleiner, and D. Koelle, Properties of the electron-doped infinite-layer superconductor $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$ epitaxially grown by pulsed laser deposition, *Physical Review B* **85**, 024519 (2012)
14. J. Tomaschko, V. Leca, T. Selistrovski, R. Kleiner, and D. Koelle, Importance of grain-boundary Josephson junctions in the electron-doped infinite layer cuprate superconductor $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$, *Physical Review B* **84**, 214507 (2011)
15. J. Tomaschko, C. Raisch, V. Leca, T. Chassé, R. Kleiner, and D. Koelle, Electric transport across $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2/\text{Au}/\text{Nb}$ planar tunnel junctions and x-ray photoelectron and Auger-electron spectroscopy on $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$ thin films, *Physical Review B* **84**, 064521 (2011)
16. V. Leca and E. Andronescu, Improved surface morphology of (110) NdGaO_3 substrates by thermal and chemical treatments, *Romanian Journal of Materials* **41**, 127-131 (2011)
17. V. Leca and E. Andronescu, Properties of BaTiO_3 thin films grown by laser ablation, *Romanian Journal of Materials* **40**, 149-152 (2010)
18. V. Leca, D. Neagu, E. Stefan, and E. Andronescu, Growth mechanism and properties of $\text{YBa}_2\text{Cu}_3\text{O}_7$ thin films deposited by laser ablation on (001) SrTiO_3 , *Romanian Journal of Materials* **40**, 365-369, (2010)
19. R. Werner, C. Raisch, V. Leca, V. Ion, S. Bals, G. Van Tendeloo, T. Chassé, R. Kleiner, and D. Koelle, Transport, magnetic, and structural properties of $\text{La}_{0.7}\text{Ce}_{0.3}\text{MnO}_3$ thin films: Evidence for hole-doping, *Physical Review B* **79**, 054416 (2009)
20. V. Leca, G. Visanescu, C. Back, R. Kleiner, and D. Koelle, Growth mechanism, microstructure and transport properties of $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$ ($x=0.10-0.15$) thin films, *Applied Physics A* **93**, 779 (2008)
21. V. Leca, S. Bals, G. Van Tendeloo, D. H. A. Blank, and G. Rijnders, Superconducting $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$ ($x=0.10-0.20$) thin films with improved crystallinity grown by pulsed laser ablation, *Applied Physics Letters* **89**, 92504 (2006)
22. Ariando, D. Darminto, H. -J. H. Smilde, V. Leca, D. H. A. Blank, H. Rogalla, and H. Hilgenkamp, Phase-sensitive order parameter symmetry test experiments utilizing $\text{Nd}_{2-x}\text{Ce}_x\text{CuO}_{4-y}/\text{Nb}$ zigzag junctions, *Physical Review Letters* **94**, 167001 (2005)
23. S. Bals, G. van Tendeloo, G. Rijnders, M. Huijben, V. Leca, and D. H. A. Blank, Transmission electron microscopy on interface engineered superconducting thin films, *IEEE Transactions on Applied Superconductivity* **13**, 2834 (2003)
24. C. Rusu, S. Sedky, B. Parmentier, A. Verbist, O. Richard, B. Brijs, L. Geenen, A. Witvrouw, F. Lärmer, F. Fischer, S. Kronmüller, V. Leca, and B. Otter, New low-stress PECVD poly-SiGe layers for MEMS, *Journal of Microelectromechanical Systems*, **12**, 816 (2003)
25. A. C. Galca, E. S. Kooij, H. Wormeester, C. Salm, V. Leca, J. H. Rector, and B. Poelsema, Structural and optical characterisation of porous anodic aluminum oxide, *Journal of Applied Physics* **94**, 4296 (2003)

26. S. Bals, G. van Tendeloo, G. Rijnders, D. H. A. Blank, V. Leca, and M. Salluzzo, Optimization of superconducting thin films by TEM, *Physica C* **372-376**, 711 (2002)
27. A. Brinkman, D. Mijatovich, G. Rijnders, V. Leca, H. J. H. Smilde, I. Oomen, A. A. Golubov, F. Roesthuis, S. Harkema, H. Hilgenkamp, D. H. A. Blank, and H. Rogalla, Superconducting thin films of MgB₂ on Si by pulsed laser deposition, *Physica C* **353**, 1 (2001)
28. G. Rijnders, G. Koster, V. Leca, D. H. A. Blank, and H. Rogalla, Imposed layer-by-layer growth with pulsed laser interval deposition, *Applied Surface Science* **168**, 223 (2000)

Conferences

Oral presentations

1. V. Leca, J. Tomaschko, M. Danila, D. Wang, W. A. Bik, R. Kleiner, and D. Koelle, Closing the circle: d-wave order parameter symmetry in the electron doped Sr_{1-x}La_xCuO₂ superconductors, COST TO-BE Spring Meeting 2015, Aveiro, Portugal (2015) invited talk
2. V. Leca, J. Tomaschko, M. Danila, D. Wang, W. A. Bik, R. Kleiner, and D. Koelle, Strain relaxation and superconductivity in electron-doped Sr_{1-x}La_xCuO₂ thin films grown by laser ablation, International Conference on Superconductivity and Magnetism-ICSM 2014, Istanbul, Turkey (2014)
3. V. Leca, J. Tomaschko, M. Danila, Di Wang, W. A. Bik, D. Koelle, and R. Kleiner, Application of SQUIDS to phase-sensitive experiments, Electroceramics XIV conference, Bucharest, Romania (2014)
4. V. Leca, J. Tomaschko, D. Wang, M. Danila, W. A. Bik, R. Kleiner, and D. Koelle, Superconducting Sr_{0.85}La_{0.15}CuO₂ bicrystal grain boundary Josephson junctions, 11th European Conference on Applied Superconductivity - EUCAS, Genova, Italy (2013)
5. V. Leca, J. Tomaschko, M. Danila, W. A. Bik, A. Oprisa, R. Kleiner, and D. Koelle, Structural and electrical properties in superconducting Sr_{0.85}La_{0.15}CuO₂-based nanostructures, International Conference on Superconductivity and Magnetism-ICSM 2012, Istanbul, Turkey (2012)
6. V. Leca, G. Visanescu, S. Bals, Ch. Back, G. Van Tendeloo, R. Kleiner, and D. Koelle, Growth mechanism, microstructure, and electrical transport properties of Sr_{1-x}La_xCuO₂ thin films grown by PLD, 9th International Conference on Laser Ablation - COLA 2007, Tenerife, Spain (2007)
7. V. Leca, G. Rijnders, S. Bals, G. van Tendeloo, and D. H. A. Blank, Modified doping range for the superconducting phase in Sr_{1-x}La_xCuO₂ (x=0.1-0.2) thin films, Interfaces in Oxide Thin film Structures – 2nd THIOX Conference, Santa Margherita Ligure, Italy (2005)
8. V. Leca, G. Rijnders, D. H. A. Blank, H. Rogalla, S. Bals, and G. van Tendeloo, Growth and properties of Sr_{1-x}La_xCuO₂ (x=0.1-0.2) thin films, E-MRS Conference, Strasbourg, France (2002)
9. V. Leca, G. Rijnders, D. H. A. Blank, H. Rogalla, S. Bals, and G. van Tendeloo, Properties of Sr_{1-x}La_xCuO₂ thin films grown by PLD, 3rd European Conference on Advanced Materials and Technologies, Bucuresti, Romania (2002)
10. V. Leca, G. Rijnders, M. Huijben, D. H. A. Blank, H. Rogalla, S. Bals, and G. van Tendeloo, Imposed layer-by-layer growth of epitaxial ReBa₂Cu₃O_{7-x} thin films with pulsed laser interval deposition, 2nd European Conference on Advanced Materials and Technologies, Bucuresti, Romania (2001)
11. D. H. A. Blank, G. Rijnders, G. Koster, V. Leca, and H. Rogalla, Imposed layer-by-layer growth of high temperature superconductors with pulsed laser interval deposition, Superconductivity Group Annual Conference, Birmingham, UK (2001)
12. V. Leca, D. H. A. Blank, G. Rijnders, and H. Rogalla, Deposition, structure and electrical properties of superlattices from Ba-Sr-Ca-Cu-O system, 10th CONSILOX Conference, Alba Iulia, Romania (2000)
13. V. Leca, D. H. A. Blank, G. Rijnders, and H. Rogalla, Etching methods for perovskite substrates, 10th CONSILOX Conference, Alba Iulia, Romania (2000)
14. G. Rijnders, D. H. A. Blank, G. Koster, V. Leca, and H. Rogalla, Imposed layer-by-layer growth with pulsed laser interval deposition, E-MRS Conference, Strasbourg, France (2000)
15. V. Leca, D. H. A. Blank, G. Rijnders, and H. Rogalla, Structure and properties of (Sr,Ca)CuO₂-BaCuO₂ superlattices grown by PLD, E-MRS Conference, Strasbourg, France (2000)
16. G. Rijnders, D. H. A. Blank, G. Koster, V. Leca, and H. Rogalla, Initial growth of SrRuO₃ on vicinal SrTiO₃ substrates using pulsed laser deposition, 7th International Workshop on Oxide Electronics, Les Diablerets, Switzerland (2000)
17. G. Rijnders, D. H. A. Blank, G. Koster, V. Leca, and H. Rogalla, Manipulating the nucleation and growth of ReBaCuO, MRS Fall Meeting, Boston, USA (2000)
18. D. H. A. Blank, V. Leca, G. Rijnders, and H. Rogalla, Wet etching methods for perovskite substrates, 12th American Conference on Crystal Growth and Epitaxy, Colorado, USA (2000)
19. M. Chirculescu and V. Leca, Electrical properties of YBa₂Cu₃O_{7-x} doped with Na, Nd, and Ta, National Conference of Electrical and Magnetic Materials, Cluj Napoca, Romania (1993)

Posters

1. V. Leca, A. Oprisa, and N. Djourelou, Positron Spectroscopy Analytical Methods for Material Studies at ELI-NP, 5th International Conference of Superconductivity and Magnetism - ICSM 2016, Fethiye, Turkey (2016)
2. V. Leca, J. Tomaschko, M. Danila, D. Wang, W. M. Arnoldbik, R. Kleiner, and D. Koelle, Defects Network and Epitaxial Strain Influence on Electrical Transport Properties of Electron-Doped $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$ Thin Films Grown by Laser Ablation, 5th International Conference of Superconductivity and Magnetism - ICSM 2016, Fethiye, Turkey (2016)
3. V. Leca, A. Oprisa, N. Djourelou, and C. A. Ur, Positron spectroscopy analytical methods at ELI-NP, 28th International Conference on Defects in Semiconductors, Espoo, Finland (2015)
4. M. Danila, V. Leca, J. Tomaschko, D. Wang, W. M. Arnoldbik, R. Kleiner, and D. Koelle, Defects network and transport properties in electron-doped $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$ thin films grown by laser ablation, 28th International Conference on Defects in Semiconductors, Espoo, Finland (2015)
5. Victor Leca, Andreea Oprisa, and Nikolay Djourelou, Positron-based spectroscopy methods at ELI-NP, Methods of Porosimetry and Applications, HZDR Dresden-Rossendorf, Germany (2015)
6. A. Oprisa, N. Djourelou, V. Leca, Techniques based on positrons at ELI-NP, International Conference on Extreme Light (ICEL 2015), Bucharest, Romania (2015)
7. Victor Leca, Andreea Oprisa, Septimiu Balascuta, Nikolay Djourelou, and Calin A. Ur, Analytical methods based on positrons, 11th International Conference "Micro-to Nano-Photonics IV-ROMOPTO 2015", Bucharest, Romania (2015)
8. N. Djourelou, A. Oprisa, and Victor Leca, Project for Positron Spectroscopy Laboratory at ELI-NP, 11th International Conference "Micro-to Nano-Photonics IV-ROMOPTO 2015, Bucharest, Romania (2015)
9. Nikolay Djourelou, Andreea Oprisa, and Victor Leca, Project for a Source of Polarized Slow Positrons at ELI-NP, 17th International Conference on Positron Annihilation (ICPA-17), Wuhan, China (2015)
10. Nikolay Djourelou, Andreea Oprisa, and Victor Leca, Design and simulations of the source of polarized slow positrons at ELI-NP, 2015 European Nuclear Physics Conference (EuNPC2015), Groningen, The Netherlands (2015)
11. A. Oprisa, N. Djourelou, V. Leca, Positron Production at ELI-NP Simulated Using GEANT4, 28th International Conference on Defects in Semiconductors, Espoo, Finland (2015)
10. Victor Leca, Andreea Oprisa, Septimiu Balascuta, Nikolay Djourelou, and Calin A. Ur, Analytical methods based on positrons, IZEST – ELI-NP "Extreme Light's New Horizons - Introducing Zepto and Zetawatt Science & Societal applications" Conference, Paris, France (2014)
11. N. Djourelou, C.A. Ur, A. Oprisa, V. Leca, S. Balascuta, T. Marian, C. Petcu, B. Tatulea, V. Buznea, M. Conde, and C. Paun, Gamma-to-Positron Converter for High Intensity and High Brilliance Positron Source at ELI-NP. Design Challenges and Simulation by GEANT4, IZEST – ELI-NP "Extreme Light's New Horizons - Introducing Zepto and Zetawatt Science & Societal applications" Conference, Paris, France (2014)
12. J. Tomaschko, V. Leca, R. Kleiner, and D. Koelle, Superconducting $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$ ($x=0.125$) thin films and junctions, Applied Superconductivity Conference, Washington DC, USA (2010)
13. A. Blank, M. Turad, Ch. Maurer, V. Leca, Ch. Back, R. Kleiner, and D. Koelle, Ramp-type Josephson junctions with $\text{YBa}_2\text{Cu}_3\text{O}_7$ and Nb electrodes, Deutsche Physikalische Gesellschaft (DFG) Conference on Condensed Matter, Dresden, Germany (2009)
14. R. Werner, V. Leca, Ch. Back, Ch. Raisch, T. Chasse, R. Kleiner, and D. Koelle, Pulsed laser deposited $\text{La}_{0.7}\text{Ce}_{0.3}\text{MnO}_3$ thin films: dependence of the properties on growth parameters, Deutsche Physikalische Gesellschaft (DFG) Conference on Condensed Matter, Dresden, Germany (2008)
15. G. Visanescu, V. Leca, S. Bals, G. Rijnders, D. H. A. Blank, R. Kleiner, and D. Koelle, Properties of $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$ thin films grown by pulsed laser ablation, XIII International Workshop on Oxide Electronics, Ischia, Italy (2006)
16. V. Leca, G. Rijnders, D. H. A. Blank, S. Bals, G. Visanescu, R. Kleiner, and D. Koelle, New method to obtain superconducting $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$ thin films by PLD, Deutsche Physikalische Gesellschaft (DFG) Conference on Condensed Matter, Dresden, Germany (2006)
17. V. Leca, G. Rijnders, S. Bals, D. H. A. Blank, N. Schopohl, R. Kleiner, and D. Koelle, Single phase infinite-layer type $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$ thin films grown by PLD, 7th European Conference on Applied Superconductivity (EUCAS'05), Viena, Austria (2005)
18. V. Leca, G. Rijnders, D. H. A. Blank, S. Bals, G. van Tendeloo, and N. Schopohl, Superconductivity in PLD grown $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$ thin films by a new synthesis approach, Spectroscopies of Novel Superconductors Conference, Sitges, Spain (2004)
19. V. Leca, G. Rijnders, D. H. A. Blank, and H. Rogalla, Initial growth modes of ACuO_2 thin films deposited on NdGaO_3 , 5th European Conference on Applied Superconductivity, Copenhagen, Denmark (2001).

20. V. Leca, G. Rijnders, G. Koster, D. H. A. Blank, and H. Rogalla, Wet etching methods for perovskite substrates, MRS Fall Meeting, Boston, USA (2000) poster (selected best poster)
21. V. Leca, I. Pasuk, and S. Cotescu, Influence of sintering history on electrical behaviour of Ca and Sr-doped BaBiO₃, IVth Ceramic Congress, Eskisehir, Turkey (1998)
22. V. Leca and D. Libert, Sintering behaviour of commercial Si₃N₄ powders, Xth National Conference of Chemistry, Bucharest, Romania (1997)
23. V. Leca and S. Ronchetti, BaO-Bi₂O₃ system, Xth National Conference of Chemistry, Bucharest, Romania (1997)
24. M. Chirculescu and V. Leca, The influence of Na₂O on the superconducting properties of YBa₂Cu₃O_{7-x}, National Conference of Physics, Cluj Napoca, Romania (1994)

Seminars

1. Structural defects in high critical temperature superconductor thin films - University of Twente, The Netherlands, 11.2001;
2. Challenges in PLD growth of Sr_{1-x}La_xCuO₂ (x=0.1-0.2), an n-type IL superconductor - University of Twente, The Netherlands, 11.2002;
3. Epitaxial growth of p- and n-type HTSc materials by pulsed laser (interval) deposition - University of Tübingen, Germany, 12.2003;
4. Growth manipulations by means of Pulsed Laser Deposition - University of Tübingen, Germany, 07.2004;
5. Methods of improving the surface morphology for substrates with layered structure - University of Tübingen, Germany, 10.2004;
6. Growth modes and growth manipulation of epitaxial thin films - University of Tübingen, Germany, 12.2004;
7. Reflection High Energy Electron Diffraction (RHEED): growth study and manipulation - University of Tübingen, Germany, 03.2005;
8. Pulsed Laser Deposition as a tool for growth of complex oxide films - University of Tübingen, Germany, 06.2005;
9. Thin film growth and analysis: from growth to devices - University of Tübingen, Germany, 08.2005;
10. Experimental studies on the symmetry of the order parameter in Sr_{1-x}La_xCuO₂ superconducting compounds - National Institute for R&D in Microtechnologies, Bucharest, Romania, 03.2012.

Projects

Name of the project and time scale	Funding organization	Role
Development of new experimental setups and materials for the positron convertor and moderator for the ELI-NP positron beam line	Romanian Ministry of Education and Research	PM
Bolometers for space applications in middle and long IR, 2012-2015	Romanian Space Agency	MRT
Immunoassay Lab-on-a-chip for cellular apoptosis study, 2012-2016	Romanian Ministry of Education and Research	MRT
Experimental studies on the order parameter symmetry of Sr _{1-x} La _x CuO ₂ (x=0.15-0.175) thin films using SQUIDs, 2011-2016	Romanian Ministry of Education and Research	PD
High-T _c ramp-type Josephson junctions and SQIFS, 2008-2011	German Research Foundation (DFG)	MRT
Order parameter symmetry in electron-doped high temperature superconductors, 2007-2011	German Research Foundation (DFG)	MRT
Development of the superconducting quantum interference device (SQUID) technology for magnetocardiography, 2007-2010	Romanian Ministry of Education and Research	PD
Sr _{1-x} La _x CuO ₂ - based (x=0-0.20) planar Josephson junctions, 2006-2008	Romanian Ministry of Education and Research	PD
Superconducting Microtraps (TRR21/Project C2), 2005-2010	German Research Foundation (DFG)	MRT
Nano-engineering of oxide heterostructures by PLD, 2004-2005	Baden Württemberg Government, Germany.	PD
KATO-Micro antenna (20K0302K), 2004-2005	Federal Ministry of Economics and Labor (BMWA), Germany	MRT

Abbreviations: MRT - member of the research team, PD - project director, PM – project manager

- Co-supervision of Diploma or Master Dissertations**
- Pulsed laser deposition and properties of cuprate superconductors; University of Tübingen, Institute of Physics, Experimental Physics II Department, Tübingen, Germany and University of Bucharest, Faculty of Physics, Bucharest, Romania - Master thesis;
 - Fabrication of ramp-type Josephson junction from $\text{YBa}_2\text{Cu}_3\text{O}_7$ high critical temperature superconductor; University of Tübingen, Institute of Physics, Experimental Physics II Department, Tübingen, Germany – Master thesis;
 - Structure-physical properties correlation in $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3$ thin films and $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}/\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3$ heterostructures grown by pulsed laser ablation; University Polytechnic of Bucharest, Faculty of Applied Chemistry, Materials Science Department, Bucharest, Romania (2008) – Diploma thesis;
 - Preliminary studies for fabrication of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ and $\text{PrBa}_2\text{Cu}_3\text{O}_{7-\delta}$ based ramp-type Josephson junctions by pulsed laser ablation; University Polytechnic of Bucharest, Faculty of Applied Chemistry, Materials Science Department, Bucharest, Romania (2008) – Diploma thesis;
 - Preparation and characterization of $\text{La}_{0.7}\text{Ce}_{0.3}\text{MnO}_3$ thin films; University of Tübingen, Institute of Physics, Experimental Physics II Department, Tübingen, Germany (2008) – Master thesis.
- Co-supervision of PhD Disertations**
- Fabrication of dc-SQUIDs based on all high- T_c superconductor ramp-type Josephson junctions; University of Tübingen, Institute of Physics, Experimental Physics II Department, Tübingen, Germany (2007-2011);
 - Phase-sensitive order parameter symmetry test experiments utilizing $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$ ($x=0.10-0.15$) based junctions; University of Tübingen, Institute of Physics, Experimental Physics II Department, Tübingen, Germany (2008-2012);
 - Preparation and characterization of $\text{La}_{0.7}\text{Ce}_{0.3}\text{MnO}_3/\text{YBa}_2\text{Cu}_3\text{O}_7$ bilayers; University of Tübingen, Institute of Physics, Experimental Physics II Department, Tübingen, Germany (2008-2012);
 - Oxide-based nanostructures: PLD thin films growth and characterization; University Polytechnic of Bucharest, Faculty of Applied Chemistry, Materials Science Department, Bucharest, Romania (2010-2013).
- Editorial activities**
1. Reviewer for Physica C, Optics Communications (both Elsevier journals), and Romanian Journal of Materials;
 2. Reviewer at the following conferences: 9th International Conference on Laser Ablation – COLA 2007, Tenerife, Spain (2007); 7th European Conference on Applied Superconductivity (EUCAS'05), Vienna, Austria (2005); Interfaces in Oxide Thin film Structures, Santa Margherita Ligure, Italy (2005); International Semiconductor Conference – CAS (since 2012);
 3. Expert evaluator for the Romanian Ministry of Education.
- Patents**
- Title: In-situ fabrication method of ramp-type Josephson junctions based on high critical temperature superconducting thin films
 Inventors: V. Leca, E. Andronescu. Assignee: University Polytechnic of Bucharest
- Books**
- V. Leca, Heteroepitaxial growth of copper oxide superconductors by pulsed laser deposition, ISBN 9036519284, Ed. Printpartners Ipskamp, The Netherlands (2003)