



## Curriculum Vitae

### Personal information

First name / Surname **Daniela Gurau**  
Address 161 Garii Street, 077120, Jilava, Ilfov  
Telephone +40 740 371 601 Mobile: +40 740 371 601  
E-mail daniela.gurau@ymail.com; daniela.gurau@ifin.nipne.ro  
Nationality Romanian  
Date of birth 23 April 1983  
Gender Feminine  
Marital status Married

### Scientific interest

Nuclear spectroscopy  
Gamma-ray spectrometry  
Radionuclide metrology  
Monte Carlo simulation of radiation transport

### Work experience

Dates	January 2013-present
Occupation or position held	Scientific Researcher 3rd degree
Main activities and responsibilities	Responsible for gamma-ray spectrometry measurements and analysis (in-situ, laboratory and radioactive waste drums). Radiological characterization of materials for free release. Participation in scientific research, projects and technological development in the field of gamma-ray spectrometry (using NaI(Tl) and HPGe detectors) used in the decommissioning of the VVR-S nuclear research reactor.
Name and address of employer	Radiological Characterization Laboratory (LCR)/ Reactor Decommissioning Department (DDR)/ Management Center for Decommissioning and Radioactive Waste (CMDRR)/ Horia Hulubei National Institute for Physics and Nuclear Engineering (IFIN-HH) 30 Reactorului, 077125, Magurele, Ilfov
Type of business or sector	The institute is dedicated to the research and development in physical and natural sciences, mainly nuclear physics and nuclear engineering, and in related areas including astrophysics and particle physics, field theory, mathematical and computational physics, atomic physics and physics of condensed matter, life and environmental physics.
Dates	January 2006-December 2012
Occupation or position held	Scientific Research Assistant
Main activities and responsibilities	Responsible for gamma-ray spectrometry measurements and analysis (in-situ, laboratory and radioactive waste drums). Participation to the radiological characterization process of VVR-S Reactor and free release of materials and equipment's from VVR-S Reactor.
Name and address of employer	Radiological Characterization Laboratory (LCR)/ Reactor Decommissioning Department (DDR)/ Management Center for Decommissioning and Radioactive Waste (CMDRR)/ Horia Hulubei National Institute for Physics and Nuclear Engineering (IFIN-HH) 30 Reactorului, 077125, Magurele, Ilfov
Type of business or sector	The institute is dedicated to the research and development in physical and natural sciences, mainly nuclear physics and nuclear engineering, and in related areas including astrophysics and particle physics, field theory, mathematical and computational physics, atomic physics and physics of condensed matter, life and environmental physics.

Dates July 2005-November 2005  
Occupation or position held Referent 1st class, assistant 1st degree  
Main activities and responsibilities Responsible for gamma-ray spectrometry measurements and analysis of environmental samples.  
Name and address of employer Radiation Environmental Laboratory (LRM)/  
National Agency of Environmental Protection (ANPM)  
294 Splaiul Independentei, 060031, Sector 6, Bucharest  
Type of business or sector The agency mission consists in ensuring a better environment for the present and future generations, through a continuous enhancement of air, soil and water quality.

Dates July 2004-July 2005  
Occupation or position held Technician  
Main activities and responsibilities Responsible for gamma-ray spectrometry measurements and analysis of environmental samples.  
Name and address of employer Radiation Environmental Laboratory (LRM)/  
National Institute for Research and Development in Environmental Protection (INCDPM)  
294 Splaiul Independentei, 060031, Sector 6, Bucharest  
Type of business or sector Environment research activities.

## Education and training

Dates October 2007-March 2012  
Title of qualification awarded PhD in Physics. PhD thesis: „Contribution to the development of gamma-ray spectrometry investigation methods applied in the decommissioning of the nuclear facilities”. Scientific supervisor: Prof.Univ.Dr. Octavian Sima.  
Principal subjects/occupational skills covered Nuclear Physics  
Name and type of organization providing education and training University of Bucharest, Faculty of Physics  
Level in national or international classification 6

Dates October 2005-June 2007  
Title of qualification awarded Master's Diploma. Master diploma: „The efficiency calculation in view of superficial activity evaluation”- project master mean 10 (out of 10). Scientific supervisor: Prof.Univ.Dr. Octavian Sima.  
Principal subjects/occupational skills covered Theoretical and condensed matter physics  
Name and type of organization providing education and training University of Bucharest, Faculty of Physics  
Level in national or international classification 5

Dates October 2001-June 2005  
Title of qualification awarded Bachelor's Diploma. Diploma project: “The variability of natural radiation environment in Romania in 2004. The assessment of the population radiation doses from the uranium mining areas and phosphogypsum dumps”- diploma project mean (out of 10). Scientific supervisor: Prof.Univ.Dr. Octavian Sima.  
Principal subjects/occupational skills covered Biophysics  
Name and type of organization providing education and training University of Bucharest, Faculty of Physics  
Level in national or international classification 5

## Personal skills and competences

Mother tongue **Romanian**

Other language(s) **1. English**  
**2. French**

Self-assessment

**Understanding**

**Speaking**

**Writing**

<b>European level*</b>	Listening		Reading		Spoken interaction		Spoken production			
<b>Language</b>	1	C2	1	C2	1	C1	1	C1	1	C1
<b>Language</b>	2	B1	2	B1	2	A2	2	A2	2	B1

(\*) [Common European Framework of Reference for Languages](#)

Social skills and competences	Ability to manage personal reactions and attitudes towards responsibilities and challenges in work and life. To comprehend, understand and profit from experience. Independent learning. Capacity to recognize and respect the beliefs, practices, cultures, traditions, principles and positions of others.
Organizational skills and competences	Ability to create, plan for and achieve personal and professional goals. Dependable, trustworthy and committed to mutual agreement in work.
Technical skills and competences	Laboratory practice (developed by the 12 <sup>th</sup> years of studies in gamma-ray spectrometry). Good command of quality control processes.
Computer skills and competences	Strong computer skills and ability to learn software independently. Good knowledge of MS Windows 95/98/2000/XP and Microsoft Office tools. Basic knowledge of Linux. OriginLab. Monte Carlo simulations codes: ETNA, COLEGRAM, GESPECOR, GEANT3.21, MicroShield. Specific gamma-ray software: Maestro32, GammaVision32, Isotopic32, Gennie2000, NDA1000, ISOCS.
Artistic skills and competences	Life-long learner involved in an ongoing process of discovery, problem solving, discipline and refinement of skills in various art disciplines.
Driving license	Category B

## Additional information

IAEA online exam	Basic Security in the field – Staff Safety Health, and Welfare, diploma.
Specialization and qualifications	<ol style="list-style-type: none"> <li>Geant4 tutorial, IFIN-HH Bucharest, Romania, 14-18 November 2016.</li> <li>IV International Geant4 School, 23-28 October 2016, Belgrade, Serbia.</li> <li>Radiological security in practices with ionized radiation sources, the second level, 21 March - 08 April 2011, CPSDN, IFIN-HH, Magurele.</li> <li>Training course for manipulation of Segmented Gamma Scanner Waste Assay, IAEA TC Project ROM4029-82350N, January 2008.</li> <li>Regional Training Course on Decommissioning of Research Reactors, 14-18 May 2007, Tashkent, Uzbekistan, RER/3/005, diploma.</li> <li>Radioactive Waste Management and Radiological Protection, 15-19 January 2007, NUKEM, IFIN-HH, Magurele, diploma.</li> <li>CANUR member, ConvEx3 exercise, May 2005.</li> </ol>
Grants/ Fellowships	<ol style="list-style-type: none"> <li>IAEA fellowship in the field of Radioactive Waste Management Technologies. ROM/4/029 IAEA project: "Strengthening the Infrastructure for the Decommissioning of the Research Reactor at Magurele-Bucharest", 17 November – 12 December 2008, Forschungszentrum Karlsruhe GmbH (FZK), Karlsruhe, Germania.</li> </ol>
Invited Talks	<ol style="list-style-type: none"> <li>D. Gurau, Gamma-ray spectrometry measurements of the radioactive waste packages in compliance with storage, transport, disposal requirements and proof of compliance, Workshop on the Implementation of Decommissioning Schemes under the Research reactor Decommissioning Demonstration Project (R2D2P): Dismantling of the Higher Active Parts, 22-26 June 2015, Magurele-Bucharest, Romania.</li> <li>D. Gurau, Gamma-ray spectrometry techniques used in the radiological characterization of the radioactive materials, Regional Workshop on Decommissioning of Soviet Type Research Reactors, 19-23 May 2014, Magurele-Bucharest, Romania, IAEA Project RER9120, oral presentation.</li> <li>D. Gurau, Radiological characterization through gamma-ray spectrometry measurements, Training Course in Decommissioning and Dismantling Technologies for Nuclear Research Reactors, with international participation from Iraq, 12-23 December 2011, Magurele, Romania, oral presentation.</li> </ol>
Lector	<ol style="list-style-type: none"> <li>Training program "Nuclear Radiation Measurements" for United Arab Emirates, 09-26 May 2016, IFIN-HH, Magurele-Bucharest, Romania, oral presentations.</li> </ol>

Participation to international  
manifestation

1. **D. Gurau**, D. Stanga, Challenges of Gamma-ray Waste Assay During Decommissioning of the VVR-S Reactor from IFIN-HH, NUCLEAR 2017, Sustainable Development through Nuclear Research and Education, 24-26 May 2017, Pitesti, Romania, oral presentation.
2. **D. Gurau**, S. Boden, O. Sima, D. Stanga, Determination of the neutron activation profile of core drill samples by gamma-ray spectrometry, 21st International Conference on Radionuclide Metrology and its Applications (ICRM2017), 15-19 May 2017, Buenos Aires, Argentina, poster presentation.
3. R. Deju, I. Robu, C. Mazilu, D. Gurau, **M. Mincu**, Recycling of the radioactive concrete resulted from decommissioning of VVR-S Nuclear Research Reactor from Magurele, Asian Advanced Materials Congress 2017 (ASAMC2017), Diamond Princess Cruise Ship cruising from Singapore - Kuala Lumpur (Malaysia) - Penang (Malaysia) - Phuket (Thailand) - Singapore, 11-16 March 2017, oral presentation.
4. R. Deju, **M. Mincu**, D. Gurau, The Long-Term Leaching Behaviour of  $^{137}\text{Cs}$ ,  $^{60}\text{Co}$  and  $^{152}\text{Eu}$  Radionuclides Incorporated in Mortar Matrices Made From Natural Aggregates and Recycled Aggregates, 19th International Conference on Environmental Engineering and Waste Management (ICEEWM2017), February 23-24, 2017, Rio de Janeiro, Brazil, oral presentation.
5. **D. Gurau**, H. Birca, Release of Decommissioning Material and Waste from Regulatory Control in Romania, C1-RER/9/138 9002 01, Regional Workshop on Release of Decommissioning Material and Waste from Regulatory Control, Sofia, Bulgaria, 23-27 January 2017, oral presentation.
6. **D. Gurau**, Radiological characterization in decommissioning of the VVR-S nuclear research reactor from IFIN-HH, Romania, Interregional Workshop on Characterization and Inventory Management for Decommissioning, Karlsruhe, Germany, 5-9 December 2016, oral presentation.
7. **D. Gurau**, R. Deju, D. Stanga, A. Zorliu, I. Stoian, M. Dragusin, Evaluation of the concrete protection activity profile of the VVR-S RN from IFIN-HH, European Nuclear Conference (ENC2016), The European Forum to discuss Nuclear Science & Technology Issues, Opportunities & Challenges, 9-13 October 2016, Warsaw, Poland, oral presentation.
8. **D. Gurau**, R. Deju, M. Dragusin, The recycling of radioactive concrete resulted from the decommissioning of the VVR-S nuclear research reactor, 9th International Conference on Nuclear and Radiochemistry, NRC9, Helsinki, Finland, 28 August-02 September 2016, poster presentation.
9. **I. Iorga**, I. Stoian, D. Gurau, A. Zorliu, R. Deju, M. Dragusin, Radiological characterization of biological protection of the IFIN-HH VVR-S nuclear research reactor block, 16th International Balkan Workshop on Applied Physics and Materials Science (IBWAP2016), Constanta, Romania, 7-9 July 2016, poster presentation.
10. **I. Iorga**, D. Gurau, R. Deju, I. Stoian, Technology developing for decommissioning of the horizontal channels of VVR-S research reactor, Magurele-Bucharest, Romania, 16th International Balkan Workshop on Applied Physics and Materials Science (IBWAP2016), Constanta, Romania, 7-9 July 2016, oral presentation.
11. R. Deju, **I. Iorga**, D. Gurau, Experience Gained During the Decommissioning of the SSEC from the VVR-S Nuclear Research Reactor, 6th International Advances in Applied Physics and Materials Science Congress & Exhibition, Steigenberger Hotel Maslak, Istanbul, Turkey, 1-3 June 2016, oral presentation.
12. **I. Iorga**, R. Deju, D. Gurau, M. Mincu, Role of the simulation data in the operational radioprotection at the dismantling time of one of the control rods for the VVR-S Nuclear Research Reactor, 6th International Advances in Applied Physics and Materials Science Congress & Exhibition, Steigenberger Hotel Maslak, Istanbul, Turkey, 1-3 June 2016, oral presentation.
13. A. Stochioiu, **C. Tuca**, M. Dragusin, D. Gurau, F. Mihai, The radiological risk assessment for workers involved in liquid waste transfer operations, 14th Congress of the International Radiation Protection Association (IRPA14), 9-13 May 2016, Cape Town International Convention Centre, South Africa, poster presentation.
14. D. Gurau. Nuclear Decommissioning&Waste Management Summit, 3rd Edition, Active Communications International, Inc (ACI), Hilton London Kensington, Londra, UK, 24-25 February 2016.
15. **D. Stanga**, O. Sima, **D. Gurau**, Uncertainty assessment in the free-release measurement by gamma spectrometry of rotating waste drums, 20th International Conference on Radionuclide Metrology and its Applications (ICRM2015), 8-11 June 2015, Viena, Austria, poster presentation.
16. L. Done, **L.C. Tugulan**, **D. Gurau**, F. Dragolici, C. Alexandru, Comparison of LabSOCS and GESPECOR codes used in gamma-ray spectrometry, 20th International Conference on Radionuclide Metrology and its Applications (ICRM2015), 8-11 June 2015, Viena, Austria, poster presentation.
17. **M. Dragusin**, A. Zorliu, R. Deju, C.A. Dragolici, I. Mincu, D. Stanga, D. Gurau, C. Mustata, C. Petran, I. Stoian, Decommissioning the IFIN-HH VVR-S nuclear research reactor dismantling the primary cooling circuit, European Research Reactor Conference (RRFM), 19-23 April 2015, Bucharest, Romania, oral presentation.
18. D. Stanga, **D. Gurau**, E. Ionescu, The radiological characterization experiences gained during the

- decommissioning of the VVR-S nuclear research reactor from Magurele-Bucharest, Romania, Workshop on Experiences in Radiological Characterization and Activation Calculations for Decommissioning, Visaginas, Lituania, 14-19 December 2014, oral presentation.
19. **D. Gurau**, CBRN unit (HH-NIPNE), EMERSYS - Toward an integrated, joint cross-border detection system and harmonized rapid responses procedures to chemical, biological, radiological and nuclear emergencies, Technical visit of French gendarmerie representatives, HH-NIPNE, 11 December 2014, oral presentation.
  20. **D. Gurau**, Challenges of gamma-ray assay during decommissioning, The 14th International Balkan Workshop on Applied Physics and Materials Science, Ovidius University of Constanta, 02-04 July 2014, Constanta, poster presentation.
  21. I. Iorga, A.O. Pavelescu, M. Dragusin, **D. Gurau**, Radiological characterization of the decommissioned underground radioactive effluent pipes from the IFIN-HH VVR-S nuclear research reactor, The 14th International Balkan Workshop on Applied Physics and Materials Science, Ovidius University of Constanta, 02-04 July 2014, Constanta, poster presentation.
  22. **D. Gurau**, Decommissioning of the VVR-S Nuclear Reactor, Regional Workshop on Decommissioning Dose Assessment and Dose Optimization, RER/9/120, 30 September – 04 October 2013, SCK•CEN Mol, Belgium, oral presentation.
  23. D. Gurau. Regional demonstration workshop on application of the state-of-the-art characterization and visualization technologies in decommissioning. RER/3/009, 05-09 December 2011, CEA Marcoule, France.
  24. **D. Gurau**, O. Sima, The examination of source distribution in a large sample by Monte Carlo simulation, 18<sup>th</sup> International Conference on Radionuclide Metrology and its Applications (ICRM2011), 19-23 September 2011, Tsukuba, Japan, poster presentation.
  25. **D. Stanga**, **D. Gurau**, A new approach in gamma-ray scanning of rotating drums containing radioactive waste, 18<sup>th</sup> International Conference on Radionuclide Metrology and its Applications (ICRM2011), 19-23 September 2011, Tsukuba, Japan, poster presentation.
  26. **E. Ionescu**, D. Gurau, D. Stanga, O. Dului, Radiological characterization of the VVR-S nuclear reactor block from Magurele-Romania. 6<sup>th</sup> Workshop on European Collaboration for Higher Education and Research in Nuclear Engineering and Radiological Protection (CHERNE2010), 7-9 June 2010, Coimbra, Portugal, poster presentation.
  27. **D. Gurau**, O. Sima, The response function of a HPGe detector used in assays of radioactive waste drums using Monte Carlo simulation. 6<sup>th</sup> Workshop on European Collaboration for Higher Education and Research in Nuclear Engineering and Radiological Protection (CHERNE2010), 7-9 June 2010, Coimbra, Portugal, poster presentation.
  28. **D. Stanga**, D. Radu, O. Sima, A new model calculation of the peak efficiency for HPGe detectors used in assays of radioactive waste drums, 17<sup>th</sup> International Conference on Radionuclide Metrology and its Applications (ICRM2009), 07-11 September 2009, Bratislava, Slovakia, poster presentation.
  29. D. Gurau. Regional Workshop for Europe on Organization and Management in Decommissioning of Nuclear Power Plants and Other Large Nuclear Facilities, RER/4/027, 17-21 November 2008, Karlsruhe, Germania.

Participation to national manifestation	<ol style="list-style-type: none"> <li>1. <b>I. Iorga</b>, D. Gurau, O. Sima, Analysis of radioactive effluents pipelines for contamination/activation, Annual Scientific Conference of the Faculty-of-Physics of the University-of-Bucharest, 20 June 2014, Magurele, oral presentation.</li> <li>2. <b>D. Gurau</b>, O. Sima, Evaluation of response function of ISOCART (Ortec) using Monte Carlo simulations, Scientific communication session of young researched from IFIN-HH, 20 December 2010, Magurele, oral presentation.</li> <li>3. <b>D. Gurau</b>, The influence of the nuclear reactor decommissioning to the environment, Alexander von Humboldt Conference (Humboldt Kolleg), Knowledge, Culture, Science, the Fundament of Quality of Life in Society, "Politehnica" University of Timisoara, 23-28 November 2010, Timisoara, poster presentation.</li> <li>4. <b>D. Gurau</b>, O. Sima, Evaluation of the germanium detector response function used in the assay of radioactive waste drums, National Conference of Physics (CNF2010), Alexandru Ioan Cuza University, 22-25 September 2010, Iasi, poster presentation.</li> <li>5. <b>D. Gurau</b>, O. Sima, The function of response ISOCART (Ortec) gamma-ray spectrometry system using Monte Carlo simulations, Annual Scientific Conference of the Faculty-of-Physics of the University-of-Bucharest, 18 June 2010, Magurele, oral presentation.</li> <li>6. <b>D. Radu</b>, O. Sima, Simulation of gamma-ray spectra for complex measurement systems using Geant 3.21, Annual Scientific Conference of the Faculty-of-Physics of the University-of-Bucharest, 5 June 2009, Magurele, oral presentation.</li> <li>7. <b>D. Radu</b>, D. Stanga, O. Sima, Transfer of detector efficiency calibration from a point source geometry to other geometries using ETNA software, National Conference of Physics (CNF2008), 10-13 September 2008, Magurele, poster presentation.</li> <li>8. <b>D. Radu</b>, D. Stanga, O. Sima, A method of efficiency calibration for disc sources in gamma-ray spectrometry, Annual Scientific Conference of the Faculty-of-Physics of the University-of-Bucharest, 6 June 2008, Magurele, oral presentation.</li> <li>9. <b>E. Ionescu</b>, D. Stanga, D. Radu, Preliminary radiological characterization of the RP0 nuclear facility, Scientific communication session of young researched from IFIN-HH, December 2008, Magurele, oral presentation.</li> </ol>
Participation to international projects	<ol style="list-style-type: none"> <li>1. JRP ENV54 MetroDecom Metrology for Decommissioning Nuclear Facilities, 2014-2017.</li> <li>2. Cross-Border Cooperation Programme, EMERSYS - Toward an integrated, joint cross-border detection system and harmonized rapid response procedures to chemical, biological, radiological and nuclear emergencies", 2013-2015, activity lider.</li> <li>3. PHARE project RO 2006/08-411.03.04, „Safe Decommissioning the research reactor VVR-S from IFIN-HH", 2007-2010.</li> <li>4. IAEA R2D2P project</li> <li>5. TCP IAEA ROM 04/029 „Strengthening the Infrastructure for the Decommissioning of the Research Reactor at Magurele-Bucharest", 2003-2007.</li> <li>6. Basic Ordering Agreement 3J-00201 with ANL-DOE-SUA, 2003-2006.</li> <li>7. DOE contract No: DE-GI52-03NA99602.</li> <li>8. Russian Research Reactor Fuel Return (RRFR) Program.</li> </ol>
Participation to national project	<ol style="list-style-type: none"> <li>1. PNCDI2, Innovative recycling technology for radioactive concrete resulted from the decommissioning of the nuclear facilities, PN-II-PT-PCCA-2011-3.1-0014, 2012-2016.</li> <li>2. HG 898/2009 implementation, Decommissioning of the VVR-S nuclear reactor, repatriation of the EK-10 nuclear spent fuel and the modernization of the Radioactive Waste Treatment Station from IFIN-HH, 2010-2020.</li> <li>3. PN 09 37 03 02, Techniques and technologies for decommissioning of nuclear and radiological facilities and management of material resulted from nuclear practices, 2008-2012.</li> <li>4. PNCDI2, Innovative technology for gamma-ray spectrometry measurement applied in radioactive waste management resulted from decommissioning of nuclear facilities (TISADIN), PN-II-PT-2008-2-72-175, 2008-2011.</li> <li>5. PNCDI2, EMIT, PN-II-PT-2007-1-71-113, 2007-2010.</li> <li>6. PN 06-350402, Radioactive waste management resulted from nuclear activities and from the decommissioning of the VVR-S reactor from IFIN-HH, 2006-2008.</li> <li>7. CNCAN – IFIN-HH contract No: 6/November 14, 2006.</li> <li>8. Implementation of HG 700/2005 regarding the clean-up activities from VVR-S reactor IFIN-HH.</li> </ol>
Project manager	<ol style="list-style-type: none"> <li>1. Project winner: 2011, cod 0295, PN-II-RU-PD-2011-3-0144.</li> </ol>
Participation to elaboration of technical documents	<p>Radiological Characterization plans.  Characterization survey reports.  Contribution to the decommissioning plan of the VVR-S nuclear reactor from IFIN-HH.  Working procedures.</p>
<b>Date</b>	May 2017

**Signature**

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