CURRICULUM VITAE

Personal information

Name, Surname:	**VLĂDOIU Rodica**		
Date of birth:	28/02/1969	Sex:	F
Nationality:	Romanian		
Researcher unique identifier(s) (ORCID, Researcher ID etc.):	*https://orcid.org/0000-0002-0803-9861* *https://publons.com/researcher/2753074/rodica-n-vladoiu/*		
URL for personal website (if case):	*https://www.brainmap.ro/*; U-1700-034L-781		

Education

Year	Faculty/department - University/institution - Country
2010 – 2013	**Postdoctoral scholarhip**: strategic grant **POSDRU/89/1.5/S/58852**, Project „Postdoctoral programme for training scientific researchers" cofinanced by the European Social Found within the Sectorial Operational Program Human Resources Development 2007 – 2013/ Faculty of Physics, Bucharest University, Romania
2004	**Ph.D. in Physics**, Faculty of Physics, Bucharest University, Romania
1994	**Bachelor** in Physics - Optics, Spectroscopy, Plasma and Lasers Speciality, Faculty of Physics, Bucharest University, Romania

Positions - current and previous

(*Academic sector/research institutes/industrial sector/public sector/other)*

Year	Job title – **Ovidius University of Constanta, Romania**
2016 - present	**Full professor**/ Higher education, research and management activities
2007-2016	Associate professor/ Higher education, research and management activities
2004-2007	Lecturer Dr/ Higher education, research and management activities
1994-2004	Assistant/ High level in teaching and research
2021-present	Associate member of the ROMANIAN ACADEMY OF SCIENCE (AOSR) , Bucharest Romania

Project management experience

(*Academic sector/research institutes/industrial sector/public sector/other. Please list the most relevant.)*

Year	Project title - Role – Funder – Budget – link to project webpage
National Projects	
2017-2019	Advanced materials obtained by implementation of novel concept of laser- plasma technology INOVATECH - **Project leader**- 70/2017-PCE-Ideas UEFISCDI - **850 000 RON**
2012-2016	Complex carbon and titanium based nanocomposites for industrial applications CREATIF **Project leader** Project 160/2012 UEFISCDI "PCCA- (PARTNERSHIP with 3 partners and one industrial partner-3 000 000 RON (**UOC part: 1 100 000 RON**)- http://creatif.univ-ovidius.ro/

2012-2016	Growh and control of the nanometer sized crystalline grains embedded in carbon based matrix by a novel concept of Thermionic Vacuum Arc method: LTVA**- Project leader-** 78/2013 LTVA/UEFISCDI (IDEAS)-**Budget UOC: 1 125 000 RON**- http://ltva.univ-ovidius.ro/
2007- 2010	Nanostructures based on carbon obtained by thermionic vacuum arc (TVA) and gaseous vacuum arc (GTVA) - comparative qualitative study GCARBTVA **Project leader** Project 230/2007 CNCSIS – IDEAS – Budget UOC **759 532.5 RON**
2006-2008	Comparative study of the quality of carbon nanostructured layers deposited by the methods: thermionic arc in vacuum (TVA), cathodic arc and magnetron sputtering CARBOCOMP - **Project leader** Project 62/2006 /CERES -CEEX 2 (PARTNERSHIP, with 4 partners) **Budget:1 445 000** RON (UOC part: **575 000 RON**)
2008-2011	Advanced research for the production of combinatory coatings of interest for fusion CAPACIF **Responsible from UOC** Project 72-223 ANCS /2008 Partnership, with 5 partners **Budget: 2 000 000 RON** (UOC Part: **120 000 RON**)
2005-2008	Spin structures in magnetoelectronics SPINCOMEL **Responsible from UOC** Project 35/2005 MATNANTECH-CEEX 2 **Budget 1 440 000 RON** UOC Part: **78 870 RON**
2006-2008	Advanced technologies for the development of ecological metal-carbon anti-friction layers TEHMEH **Responsible from UOC** Project 237/2006 / RELANSIN- CEEX- **Budget: 1 495 000 RON** (UOC Part**: 105 000 RON)**
2005-2008	Micro and nanostructured ferroelectric materials for non-volatile memories MATFEROMEM **Responsible from UOC** Project 93/2006/ MATNANTEH- CEEX, **Budget UOC Part 82 000 RON**
2006-2008	Complex nanostructures generated in plasma: obtaining and characterization **Member in the Research team** Project MATNANTECH CEEX106/2006 Budget UOC (PARTNERSHIP, with 4 partners) **Budget:1 445 000** RON (UOC part: **575 000 RON**)
INTERNATIONAL PROJECTS	
2020-2021	Study of structure and properties of novel functional materials- **Programe Manag**er Project nr. 49 Order No. 365/11.05.2021, theme 04-4-1142-2021/2025, JINR DUBNA, **Budget:2300 USD**
2019-2020	Investigation of binary combinatorial films based on silver and platinum by Modern Neutron Scattering Methods- **Programe Manager** Project nr. 45 Order No. 269/20.05.2020 and Project nr. 55 / Order No. 397/27.05.2019 theme 04-4-1121-2015/2020 JINR DUBNA **Budget:10100 USD** (4000+6100) USD
2018	International Round Table for dissemination of the results in synthesis characterization of advanced materials by new technologies **Programe Manager** Project nr. 55 / Order No.. 322/21.05.2018 theme 04-4-1121-2015/2020 JINR DUBNA **Budget: 2500 USD**
2016 - 2018	Modèles thermocinétiques pour la croissance de Graphène et de Nanotubes de carbone par dépôt chimique en phase vapeur assisté par plasma **AUF-FRS- Responsible from UOC** Projet de recherche conjoints- **Bulgarie/France/ Romania** LAgencie universitaire de la francophonie (AUF) **Budget: 20 000 EURO**, (UOC part: 5000 EURO)
2017	Advanced researches by thermal neutron scattering methods on the binary and ternary combinatorial films based on titanium, **Programe Manager** Project 49 Order no 220/ 10.04.2017theme 04-4-1121-2015/2017 JINR DUBNA Budget: 3300 USD
2015-2016	Microstructure investigation of materials based on carbon at nanoscale by means of small angle scattering **Programe Manager** Project 83 ORDER No. 96 din 15.02.2016 and Proiect nr 47/ Order No. 34/23.01.2015 nr proiect 04-4-1121-2015/2017 JINR DUBNA **Budget: 2500 USD** (1500 +1000) USD
2004-2008	Synthesis of hard carbon thin films with diamond nanometric structure using the thermionic vacuum arc method, GRANT **HUMBOLDT V-Fokoop** – RUM/1019528 involving 5 different countries (Germany- coordinator, Italy, England, Turkey)

Other relevant professional experiences

(e.g. institutional responsibilities, organisation of scientific meetings, membership in academic societies, review boards, advisory boards, committees and major research or innovation collaborations, other commissions of trust in public or private sector)

Year	Description - Role
INSTITUTIONAL RESPONSIBILITIES	
2000 – Present	**Local Coordinator** of the CEEPUS (**Central European Exchange Program for University Studies)** network/ CII-AT-0063-01-2122 /
2010 – 2012	**Scientific Secretary** of the Faculty, Ovidius University/ Constanta/ Romania
ORGANISATION OF SCIENTIFIC MEETINGS	
2003- yearly	International Balkan Workshop on Applied Physics (**IBWAP**) *2003 – 2023*
2012	Scientific committee, Balkan Physical Union (**BPU 2012**)/ /Constanta, 5-7 July
2004	Europhysics Conference on Atomic and Molecular Physics of Ionized Gases **(ESCAMPIG) 17** Constanta, Romania
2015, 2017	Condensed Matter research by Means of Neutron Scattering Methods **(CMRNS)–Dubna,**
2008	*3rd Workshop* **ECOLATMO** *in* Constanta, Romania,
2000	"*Spring School on Plasma Laser Spectroscopy*", Ovidius University financial support by **PHARE-TTQM** programme Contract no. RO 9602-02-02-L008
MEMBERSHIP IN ACADEMIC SOCIETIES	
2021-present	Member of the ROMANIAN ACADEMY OF SCIENCE (AOSR) , Bucharest Romania
LEADING POSITIONS	
2019-2022	**Director of the Academic Grant ROSE** for Universities, AG 258/29.11.2019,
2004 – 2006	**Head of the Physics Department, Ovidius University**
COMMISSIONS OF TRUST	
2008 -	**International Evaluator** for projects for **Czech Science Foundation**/Czech Republic
2008	**Review Board**, National University Research Council (NURC), Bucharest/ Romania
2005 – 2006	**Scientific Advisory Board** in National Committee CEEPUS II/ Decision no 3803/ 5.04.2005/ OMEdC, Bucharest/ Romania
2008	**Member in the Steering Commitee in II CESPC** Brno, Czech Republic
MEMBERSHIPS OF SCIENTIFIC SOCIETIES	
2013 - today	Membership in the IACSIT (IACSIT Applied Physics Society - APS)
2006 –today	M. in the **National University Research Council** – CNCSIS/ Bucharest/Romania
2002– today	M. of **European Society of Physics** (EPS) /Romanian Society of Physics
REVIEW BOARDS	
2010-present	**Expert Evaluator at UEFISCDI** for the Romanian Research Programme -Executive Agency for Higher Education, Research, Development and Innovation Funding
2008	**International Evaluator** for projects for **Czech Science Foundation**/Czech Republic
GUEST EDITOR	
2022	***Nanomaterials (Q1)*** https://www.mdpi.com/journal/nanomaterials/special_issues/appl_phys_nano
2021	***Coatings***, ***(Q2)*** https://www.mdpi.com/journal/coatings/special_issues/thin_film_coat_multifunct_appl
2020	***Materials (Q1)*** https://www.mdpi.com/journal/materials/special_issues/carbon-refract_met_nanostruct
2005	***Plasma Sources Science and Technology (Q1)*** 17th European Conference on Atomic and Molecular Physics of Ionized Gases

C.2 Track record of the last 10 years

A list of the most important scientific outputs (publications, patents, technologies etc).

I. PUBLICATIONS

a. Chapters in international books

C1**. R. Vlădoiu**, V. Ciupină, M.Conţulov, V. Dincă, A. Mandeş, M. Prodan Capitolul 6 *„DLC Thin Films Growth in Thermionic Vacuum Arc Technologies: TVA and GTVA***" Chapter** in **"Diamond-Like Carbon Films", Ed NOVA Science Publishers** 9 pages**,** (2014). pg 141-150, ISBN 978-1-61324-791-4.

b. Relevant papers in Q1/Q2 Journals

1) R. Vladoiu, A. Mandes, V. Dinca, P. Kudrna, M. Tichy, C. Ciobotaru, S. Polosan, "*Versatile techniques based on the Thermionic Vacuum Arc (TVA) and laser-induced TVA methods for Mg/Mg:X thin films deposition - A review* ", **JOURNAL OF MAGNESIUM AND ALLOYS**, 12 (2024) 8, **Category: Q1, (IF=13,8) doi :** 10.1016/j.jma.2024.08.012

2) A. Mandes, R. Vladoiu, V. Dinca, P. Kudrna, M. Tichy, , E. Matei, S. Polosan, *Bilayered metallic cathodes consisting of pure Mg and Zn:Al thin films optimized by Laser-induced Thermionic Vacuum Arc (LTVA) technology*, **APPL. SURFACE SCIENCE ADVANCES**, 28, (2025), 100787, **Category:** Q1, **(IF=8,87)** DOI: 10.1016/j.apsadv.2025.100787

3) R. Vladoiu, A. Mandes, V. Dinca, P. Kudrna, M. Tichy, S. Polosan, "*Magnesium-silver cathodes for efficient charge injection into Organic Light-Emitting Diodes deposited by LTVA method*", **JOURNAL OF ALLOYS & COMPOUNDS**, 869 (2021) 159364, **Category: Q1, doi :** *10.1016/j.jallcom.2021.159364*

4) R Vladoiu, M Tichy, A Mandes, V Dinca, P Kudrna, *Thermionic Vacuum Arc-A versatile technology for thin film deposition and its application* - **Review of 251 references**, **COATINGS,** Vol: 10 Issue: 3, Article Number: 211, 2020 **Category Q2,** doi: *10.3390/coatings10030211*

5) R Vladoiu, A Mandes, V Dinca, M Balasoiu, D Soloviov, V. Turchenko, *Synthesis and characterization of complex nanostructured thin films based on titanium for industrial applications***, MATERIALS,** Vol: 13, Issue: 2, Article Number: 399, 2020, **Category Q1, doi:** *10.3390/ma13020399*

6) R. Vladoiu, A. Mandes, , V. Dinca, , E. Matei, S. Polosan, *Synthesis of cobalt-nickel aluminate spinels by LTVA method and thermal annealing processes*, **NANOMATERIALS**, 2022, Volume:*12*(21), article no 3895 2022, **Category Q1, doi:** 10.3390/nano12213895

7) R. Vladoiu, A Mandes, V. D Balan, G. Prodan, P. Kudrna, M. Tichy, *Magnesium plasma diagnostics by heated probe and characterization of the Mg thin films deposited by thermionic vacuum arc technology***, PLASMA SOURCES SCIENCE & TECHNOLOGY**, **Vol:** 24, **Issue:** 3, **P:** 35008-35008, 2015 **Category Q1,** doi**:** 10.1088/0963-0252/24/3/035008

II. PATENTS

1) P Chiru, V Ciupina, I Jepu, C P Lungu, C Porosnicu, V Tiron, **R Vladoiu**, V Zaroschi, *Nanostructured Beryllium-Carbon and Beryllium-Wolfram alloys and method for preparing the same*, **Patent Number** RO127300-A0, International Patent Classification: C23C-016/14; C23C-016/513, 30 Apr 2012 OSIM-Ro State Office for Inventions and Trademarks

2) C. P. Lungu, C. Porosnicu, I. Jepu, C. Ticos, A. Marcu, I. Mustata, V. Zaroschi, V. Tiron, G. Popa, **R. Vladoiu**, V.Ciupina *Method for C-W nanocomposite thin films synthesis by Thermionic Vacuum Arc* **Patent no** A 00912/ 28.09.2010 OSIM-Ro State Office for Inventions and Trademarks

3) Polosan, S, A. Nitescu, Mandes-Vaduva, A Dinca-Balan, V, **Vladoiu R,** *Magnesium-silver aloys for metal cathodes used in electroluminiscent diode technologies*, **Patent No** A2023-00752, 28.11.2023 OSIM-Ro State Office for Inventions and Trademarks

C.3 Narrative CV

My professional career started in 1994 when I have been employed at Faculty of Applied Science and Engineering, OVIDIUS University/Constanta/Romania as assistant. **The current position is full professor**. Before that, I passed through all professional stages: Associate Professor (2007-2016), Lecturer (2004-2007), and Assistant (1994-2004) in the same institution, imediately after graduation (Specialization: Optics, Spectroscopy, Plasma and Lasers in the Faculty of Physics/ Bucharest University- Romania).

The title of **PhD** thesis **awarded** on 19 May 2004 by the the Ministry of Education and Research was: "Contributions to the use of TVA (Thermionic Vacuum Arc) method for deposition of Carbon thin films", coordinated by Acad. Prof. Dr. Musa Geavit. During 2010-2013 I gained **a Postdoctoral scholarhip**: strategic grant **POSDRU/89/1.5/S/58852**, Project „Postdoctoral programme for training scientific researchers" cofinanced by the European Social Found within the Sectorial Operational Program Human Resources Development coordinated by Faculty of Physics, Bucharest University, Romania. During the period 2004 – 2006 I had the position: **Head of the Physics Department.**

Between 2001-2024 **twenty four (24) scholarships** were awarded in the frame of CEEPUS (**C**entral **E**uropean **E**xchange **P**rogram for **U**niversity **S**tudies) Program, in outstanding universities from 500 TOP universities, according to ARWU 2011 Ranking, covering a **total number of 68 weeks**: "Charles" University (Prague-Czech Republic), Institute for Ions Physics (Innsbruck-Austria), "Comenius" University (Bratislava-Slovakia), "Masaryk" University (Brno- Czech Republic). During 2019-2022, as **Director of the Academic Grant ROSE** for Universities, AG 258/29.11.2019, project financed by the World Banque (75200 Euro), I was involved in the management of the students' training and curricular improvement by adapting the educational offer to the requirements of the market jobs.

Besides the academic activities, the main objective of my scientific career was focused to **researches on Plasma-surface interaction** and **Plasma processing** in topics as synthesis combined with the study of applications of plasmas in nanotechnology. In particular I added new contributions in the development of the **Thermionic Vacuum Arc method**, in terms of correlation between plasma parameters for the synthesis of the thin films, as well as characterization of thin films from different points of view: *structure*, *wettability*, *roughness* and *hardness* – in collaboration with Masaryk University, Brno, *morphology* – with Dortmund University, *Raman investigation* – with Microelectronical Institute, Bratislava and *chemical composition* – with Aston University, Birmingham.

From 2000, I supervise yearly around 5 students for the diploma work and Bachelor license. As **local coordinator of CEEPUS Program**, I manage in average 6 students per year for scholarship in different universities which are involved in the program, promoting quality in education and research by training. In this way, more than 80 students have been to study abroad.

My scientific achievements are divided into the fundamental science and applied science. In the first years, the main research direction was focused on Carbon and carbon-based thin film deposition as a prolongation of my PhD theme. For this reason, from a total of over 96 scientific publications in ISI recognized journals, mainly in Q1 and Q2 top-ranked journals (e.q. ***J. of MAGN. & ALLOYS, Applied Surface Science Advances J. of Alloys and Compounds***, *Nanomaterials*, *Coatings*, ***Plasma Sourc. Sci. Technol.***, *Vacuum, Diamond and Relat Mater., Plasma Chem. Plasma Process., Material Letters, J. of Phys. D: Appl. Phys*.,) half of them concerns with this subject**.**

I am also first author in **three chapters in international books** ("*New Industrial Plasma Technology*" Chapter 29, Ed. Wiley-VCH, Weinheim, 2010, "*Diamond-Like Carbon Films*", Chapter 6, Ed. NOVA Science Publishers 2012, "*Diamond and Carbon composites and Nanocomposites*", Chapter 5 Ed. InTech, 2016)

In 2006, I created the Plasma Physics Group (PP Group) in Ovidius University, as part of the Physics and Electrical Department and consists of approximately 6 group members, including three teaching staff, two full time assistant researchers, and one technical staff. I am the **Head of the Group** .The Group's research covers a broad spectrum with interests including large area carbon and silicon materials, the fabrication of nanostructured thin film, **fundamental research on Plasma-surface interaction** and **Plasma processing** in topics as deposition and treatment combined with the study of applications of plasmas in nanotechnology.

Concerning the experience on the projects' management, I was involved in **19 research projects**, in **17 as Project leader or Responsible: 10 National** (in 7 projects as ***Principal Investigator***, in 3 projects as **Partner's Responsible**) and **9 International Research projects** (7 Bilateral projects as *principal investigator*). **The total value of the funding in projects is 1177000 Euro.** Some relevant international projects are**: Project AUF l'Agentie Universitaire du Francofonie"**, ThermoVapCar 2016-2019, 3 countries: Bulgarie, France, and Roumanie, **AvH-V-Fokoop-RUM/1019528 (2004-2008)** "Synthesis and Analysis of Hard Carbon Coatings using the Thermionic Vacuum Arc (TVA) funded by Humboldt foundation, jointed different groups from Duisburg –Germany, Trento-Italy, Birmingham-England, Eskisehir-Turkey, and Joint Research Protocol with Joint Institute for Nuclear Research (JINR).

One of the greatest impact of my work was focused on the **concept of Thermionic Vacuum Arc (TVA) method,** an original romanian method of deposition**.** The interest of her group on this method have raised year by year, because nanocomposites deposition process by this method might become one of the most suitable technology to create advanced materials, with tailored grain sizes and composition, One of the last paper published as main author was **a Review of 35 pages**: R Vladoiu, M Tichy, A Mandes, V Dinca, P Kudrna, *Thermionic Vacuum Arc-A Versatile Technology for Thin Film Deposition and Its Application*, Coatings**,** Vol: 10 Issue: 3, Article Number: 211, 2020. This review summarizes **the more-than-25-years of development** of the so-called Thermionic Vacuum Arc (TVA), based on 251 references. In this way, the TVA technology has proved its viability in fundamental science as well as in practical applications. (already achieved 40 citations).

The next step was to develop other two novel techniques **- the Gas-TVA (G-TVA)** and **Laser-induced Thermionic Vacuum Arc (LTVA)**. The last novel technology has been applied for deposition of an optimal ratio between magnesium in metals, for the best efficiency of electron injection in active matrix displays applications. The first Mg-Ag alloys with around 25% silver were already obtained with the aid of the LTVA method. The thin films, with around 100 nm thickness, were characterized structurally and electrically, showing superior conductivities. (**J. of Alloys and Compounds** (***Q1*- IF=6.371**). Practically, a new technology has been developed, Laser-induced Thermionic Vacuum Arc (LTVA), applied to titanium-based nanostructures for anticorrosive properties**.** This new concept uses at maximum the offered performances by TVA technology and by the Laser-beam effect**.** One of the outstanding results of the mentioned project referred to the electrical properties of the binary composites TiCr deposited by LTVA technology.

These techniques were applied to the deposition of films of materials having special properties; diamond-like-carbon (DLC), nanostructured carbon based films for use in the anode and cathode parts of fuel cells, ionized-nitrogen doped Si-C thin films, ternary C-Si-Al nanocomposites, silicon carbide multilayer protective coatings, nanostructured a-C:H thin films, tantalum pentoxide and many other materials. At this moment, the papers record **449 citations** excluding self-citations**, a H-index of 18** and the ratio of the Q1 and Q2 from the total number of published papers is R= 38% during the whole career, but **R= 93 % in the last 5 years (2019-2025).** I also presented my contributions as a plenary/invited lecturer to more than **55 international conferences** (e.q. *Nanotechnology San Francisco-USA 2019, ICMMM Orlando-USA 2018, Nano Science and Technology- Singapore 2016, EMRS-Lille 2016).*

Important contributions added to the performances of the TVA method were published on the **TWO PATENTS**, the Issuer Office of patent being OSIM-Ro State Office for Inventions and Trademarks. The NOVELTY consists of the following: the invention relates to a device meant to be used for obtaining a stationary vapour density of high melting point materials, employed in the field of vacuum deposition of very thin films, in the nanometric range

I was invited as **GUEST EDITOR in four journals as Special Issue: *Plasma Sources Science and Technology (Q1) 2006, Nanomaterials (Q1) 2022, 2023, Coatings, (Q2) 2020,2022, Materials (Q1) 2020***, Reviever for high Impact Factor Journals, Expert Evaluator at UEFISCDI for the Romanian/International Research Programmes, until today).