

## Europass Curriculum Vitae



### Personal informations

First name(s) / Surname(s) **DUMITRU VULCANOV**  
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 Nationality Romanian  
 Date of birth 25 November 1954  
 Postul vizat Expert formator P8 UVT in cadrul proiectului  
 "Start în carieră prin master didactic"  
 POCU/864/6/21/140783.

### Work experience

Dates	Since Dec. 2019 retired Professor associate Teaching several lectures on cosmology General relativity and Space technology
Dates	2013 → 2018
Occupation or position held	President of the South East European Network for Mathematical and Theoretical Physics (SEENET-MTP)
Main activities and responsibilities	Coordinating the administrative, scientific and mobility programs of the network
Name and address of employer	SEENET-MTP Office, University of Nis, Serbia
Dates	2008 → 2016
Occupation or position held	Dean of the Physics Faculty, West University of Timisoara
Main activities and responsibilities	-Responsible for all activities of the faculty (education, administrative and research); Leads Faculty Board (Council); coordinates the curricula in all fields; he is in charge of making the payrolls, the timetable classes; responsible for admissions, matriculations, expulsions etc. -sets the faculty development strategy; represents the Faculty in the University Boards, etc.
Name and address of employer	West University of Timisoara, Physics Faculty, V.Parvan Ave. No. 4, 300223, Timisoara
Type of business or sector	Education and research
Dates	2003 → present
Occupation or position held	PhD. Professor
Main activities and responsibilities	-Teaching lectures and seminars/laboratories of Electrodynamics, Special Theory of Relativity, General Relativity, Gravity and Cosmology, Computational Physics, Advanced Databases and Operating Systems -Research in General Relativity and Cosmology, numerical and symbolic computations in

	Gravity and Cosmology, Advanced Databases and Operating Systems -Director of Studies for the Physics-Informatics undergraduate program -Director of Studies for the Computational Physics and Informatics, Astrophysics and Elementary Particles master programs.
Name and address of employer	West University of Timisoara, Faculty of Physics, V.Parvan Ave. No. 4, 300223, Timisoara
Type of business or sector	Education and research
Dates	2000 - 2003
Occupation or position held	Reader (senior lecturer), PhD.
Main activities and responsibilities	-Teaching lectures and seminars/laboratories of Electrodynamics, Special Theory of Relativity, General Relativity, Gravity and Cosmology, Computational Physics, Advanced Databases and Operating Systems -Research in General Relativity and Cosmology, numerical and symbolic computations in Gravity and Cosmology. -Director of Studies to the Physics-Informatics specialization
Name and address of employer	West University of Timisoara, Faculty of Physics, V.Parvan Ave. No. 4, 300223, Timisoara
Type of business or sector	Education and research
Dates	1992 - 2000
Occupation or position held	Lecturer, PhD.
Main activities and responsibilities	-Teaching lectures and seminars/laboratories of Electrodynamics, Special Theory of Relativity, General Relativity, Gravity and Cosmology, Computational Physics. -Research in General Relativity and Cosmology, numerical and symbolic computations in Gravity and Cosmology.
Name and address of employer	West University of Timisoara, Faculty of Physics, V.Parvan Ave. No. 4, 300223, Timisoara
Type of business or sector	Education and research
Dates	1990 - 1992
Occupation or position held	Lecturer
Main activities and responsibilities	-Teaching General Physics courses, seminars and laboratories at Faculties of Mechanics, Agricultural Mechanics, Computers and Electrotechnics. -Head of the gravity and cosmology research group.
Name and address of employer	'Politehnica' University Timisoara, Physics Department, Timisoara
Type of business or sector	Education and research
Dates	1987 - 1990
Occupation or position held	Assistant
Main activities and responsibilities	-Teaching General Physics seminars and laboratories at Faculties of Mechanics, Agricultural Mechanics, Computers and Electrotechnics -Head of the gravity and cosmology research group.
Name and address of employer	'Politehnica' University Timisoara, Physics Department, Timisoara
Type of business or sector	Education and research
Dates	1982 - 1987
Occupation or position held	Physicist researcher
Main activities and responsibilities	Research and development of technologies for nondestructive testing and control using X-ray, ultrasound, magnetic and penetrant flows; authorization ISCIR Level II; training courses

	and qualifications in the field. Teaching general physics seminars and laboratories at Physics Department of Politehnica University Timisoara as associate assistant
Name and address of employer	Welding and Testing Materials Institute (ISIM) Timisoara
Type of business or sector	Research and technological development
Dates	1978 - 1982
Occupation or position held	Physics teacher
Main activities and responsibilities	-teaching physics and technical subjects to IX-XII high School classes -responsible of the high-school Physics experimental group
Name and address of employer	Nicolae Balcescu High-school (today Colegiul National Carol)- Craiova
Type of business or sector	Education
<b>Education and training</b>	
Dates	1985 - 1995
Title of qualification awarded	PhD in Theoretical Physics, advisor : Prof. Ioan Gottlieb
Principal subjects / occupational skills covered	General Relativity and Gravitation, Computational Physics, Quantum Field Theories
Name and type of organisation providing education and training	University of "Al. I. Cuza" Iasi - Faculty of Physics
Dates	1982 - 1984
Title of qualification awarded	Level II ISCIR certificate for nondestructive testing
Principal subjects / occupational skills covered	nondestructive testing of welded joints and metals using X-rays, ultrasonic, penetrating liquids and magnetic fluxes
Name and type of organisation providing education and training	ISIM Timisoara and ISCIR
Dates	1982
Title of qualification awarded	'Definitivat' in teaching
Principal subjects / occupational skills covered	Physics
Name and type of organisation providing education and training	University of Craiova, Faculty of Physics
Dates	1974 - 1978
Title of qualification awarded	Physics Bachelor's Degree with Distinction
Principal subjects / occupational skills covered	Physics
Name and type of organisation providing education and training	University of Timisoara (today West University of Timisoara)
Dates	1973 - 1974 and August 1978 – Military stage TR
Title of qualification awarded	Sublocotentent (in reserve)

Principal subjects / occupational red	Basic military training, tactics and strategy. Military school for mountain rangers
Dates	1969 - 1973
Title of qualification awarded	Baccalaureate Degree
Name and type of organisation	Colegiul National Banatean Timisoara
Mother tongue(s)	<b>Romanian</b>
Other language(s)	<b>English, French, German</b>
<b>Computer skills and competences</b>	Expert in advanced operating systems (Linux, BSD, FreeBSD, Solaris, etc)
<b>Other Activities</b>	<p>1996 - NATO Advanced Research scholarship - Koln University, Germany</p> <p>1999 - NATO-DAAD Advanced Research scholarship - AEI Posdam, Germany</p> <p>2000-2008 - Visiting researcher at AEI Posdam (Germany) financed as MPG contracts/scholarships, working in the numerical relativity group (led by prof. Ed Seidel)</p> <p>2009-2011 Stages of Visiting Professor at University of Nis (Serbia) within the SEENET-MTP projects</p> <p>2012 - Expert evaluator for Romanian Space Agency STAR program</p>
<b>Administrative Training</b>	2011 - Graduating a special course for 'Improving University Management', specific modules: Management of tertiary activities, Support services for students.
<b>Publicationss</b>	More than 60 articles (18 in ISI journals)and communications, 40 citations, 6 books

## List of most important articles

1. D.N. Vulcanov -ADM formalism applied to some space-time models using EXCALC algebraic programming, Int. J. of Mod. Phys. 5, No. 6, 973-985 (1994)
2. D.N. Vulcanov - Algebraic programming in the Hamiltonian treatment of an inationarymodels, Int. J. of Mod. Phys. 6, No.3, 317-326 (1995)
3. D.N. Vulcanov, I.I. Cotaescu - New Routines for Algebraic Programing of the Dirac Equation, Int. J. Mod. Phys. C 8, No. 2, 273-286 (1997)
4. D.N. Vulcanov, I.I. Cotaescu - Dirac Field Gravity Inertial E\_ects and Computer Algebra, Int. J. Mod. Phys. C 8, No. 2, 345-359 (1997)
5. D.N. Vulcanov - Algebraic programming in the hamiltonian treatment of the Einstein-

Maxwell equations, Int. J. Mod. Phys. C 9, No. 1, 103-111 (1998)

6. D.N. Vulcanov, I.I. Cotaescu - Classical Oscillators in General Relativity, Europhys. Lett., 49, no. 2, 156-161 (2000)

7. G. Ardelean, I.I. Cotaescu, D.N. Vulcanov - Classical Gaussian Bag in (1+1)-Relativity, Physics Letters A, 238, 147-151, 2001

8. D.N. Vulcanov, M. Alcubierre - Testing the Cactus code on exact solutions of Einstein equations,, Int. J. Mod. Phys. C , vol. 13, No. 6 pag 805 (2002)

9. D.N. Vulcanov - Calculation of the Dirac equation in curved space-times with possible torsion using MAPLE and REDUCE, Computer Physics Communications, 154, (2003), p. 205

10. D.N. Vulcanov , V.D. Vulcanov- The Use of Maple Platform for the Study of Geodesic Motion on Curved Spacetimes, IEEE Computer Society Transactions on Computers, Synasc06 post-proceedings p. 55-62 (2006) (<http://www.computer.org/portal/site/ieeecs>)

11. D.N. Vulcanov - New results in the use of "reverse engineering" method in cosmologies with scalar field, Central European Journal of Physics, vol. 6(1), pag. 84-96, 2008

12. D.N. Vulcanov - Errors and convergence in numerical simulations of Ricci flow on 2-dimensional surfaces, American Institute of Physics, Proceeding of TIM08 conference, vol. CP1131,2009

13. D.N. Vulcanov - Applying the reverse engineering method to certain cosmologies with scalar field, Rom. Journal of Physics, vol. 55, No. 1-2, p.227, 2010

14. D.N. Vulcanov, G.S. Djordjevic - On cosmologies with non-minimally coupled scalar field, reverse engineering method and the Einstein frame, Rom. Journal of Physics, vol. 57, no. 5-6, pag. 229-234 (2012).

15. Ciprian A. Sporea, Dumitru N. Vulcanov, "Using MAPLE+GRTensorII in teaching basics of general relativity and cosmology", Romania Reports in Physics ,vol. 68 No. 1, p. 29-40 (2016).

16. D.N. Vulcanov -**Computational methods in the study of the geodesic movement of particles in gravitational fields .talk at Sinaia Spring School of Quantum Hamiltonian Systems, in**

**17. D.N. Vulcanov - Multimedia and special computer facilities used in teaching differential geometry, general relativity and cosmology,**

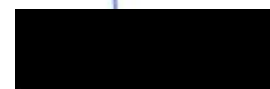
TIM 19 Physics Conference, AIP Conf. Proc. 2218, 060005-1–060005-5;

<https://doi.org/10.1063/5.0001073>, Published by AIP Publishing. 978-0-7354-1974-2/\$30.00

List of most important research grants and contracts

Project / Institution	Position	Duration..
Study of dynamical systems with applications in space technology / ROSA	Director	1996
Relativistic effects of cosmic objects and satellite motion in the Solar System / ROSA	Director	1996-2001
Models and mechanisms of production and detection of gravitational waves / ROSA	Director	2002-2004
Symmetries and super-symmetries in quantum gravity and computational cosmological models / ROSA	Subprogram director	2004-2006
Fundamental interactions and geometrodynamics / CEEX - ANCSI	Subprogram director	2006-2008
Evaluation of Romanian research in Physics / IFA	Partner person in-charge	2008-2011
Computational methods in scientific investigation of space-COMISIS / ROSA – STAR Program	Project manager	2013-2016
Computational methods in Astrophysics and Space Sciences – COMASS/ ROSA – STAR program	Project manager	2017-2018

Timisoara, July 2023



Prof.dr. Dumitru Vulcanov