

EUROPEAN
CURRICULUM VITAE
FORMAT



PERSONAL INFORMATION

Name **VASYL KOVALCHUK**
Nationality **Ukrainian**
Date of birth **DECEMBER 8, 1973**
Address **14/17, SIEMIENSKIEGO STR., 02-106 WARSAW, POLAND**
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WORK EXPERIENCE

- Dates (from – to) May 2006 – onwards
- Name and address of employer [Institute of Fundamental Technological Research, Polish Academy of Sciences, Department for Theory of Continuous Media, Section of Analytical Mechanics and Field Theory](#), Warsaw, Poland
- Occupation or position held Assistant professor
- Main activities and responsibilities Scientific research

- Dates (from – to) October 2005 – April 2006
- Name and address of employer [Institute of Fundamental Technological Research, Polish Academy of Sciences, Department for Theory of Continuous Media, Section of Analytical Mechanics and Field Theory](#), Warsaw, Poland
- Occupation or position held Assistant
- Main activities and responsibilities Scientific research

- Dates (from – to) June – August 2004
- Name and address of employer [XXI International Congress of Theoretical and Applied Mechanics](#), Warsaw, Poland
- Occupation or position held Programmer in the ICTAM'04 Information Technology team
- Main activities and responsibilities Software development, work with databases, technical assistance to chairman at the Congress

- Dates (from – to) February 1997 – June 1999
- Name and address of employer [Lviv National University named after Ivan Franko, Physics Department, Chair for Theoretical Physics](#), Lviv, Ukraine
- Occupation or position held Part-time assistant
- Main activities and responsibilities Conducting practical lessons on Theoretical Mechanics, Electrodynamics, Thermodynamics, Statistical Physics and colloquia on Quantum Mechanics

EDUCATION AND TRAINING

- Dates (from – to) October 1-7, 2007 / April 3-8, 2006 / November 14-21, 2004 / November 24-29, 2003
- Name and type of organization providing education and training "Artes Liberales" Inter-University Program, [East-Central European International School in the Humanities](#), Warsaw, Poland / [Lviv National University named after Ivan Franko](#), Lviv, Ukraine
- Principal subjects/occupational skills covered Lviv-Warsaw Seminars on Philosophy of Science:
VII – "Language and Thought"
VI – "Research Methods in Sciences and Humanities"
V – "Knowledge Within and Beyond Science"
IV – "Around Psychophysical Problem"
Diplomas Nr 2756/X/2007, 2256/IV/2006, 1612/XI/2004, 1221/XI/2003
- Title of qualification awarded

- Dates (from – to) October 2000 – March 2006
- Name and type of organization providing education and training [Institute of Fundamental Technological Research, Polish Academy of Sciences, Department for Theory of Continuous Media, Section of Analytical Mechanics and Field Theory](#), Warsaw, Poland
- Principal subjects/occupational skills covered Thesis Title: "Nonlinear models of collective and internal degrees of freedom in Mechanics and Field Theory. Symmetry problems"
- Title of qualification awarded PhD in Mechanics, diploma with honours

- Dates (from – to) September 1991 – June 1996
- Name and type of organization providing education and training [Lviv National University named after Ivan Franko, Physics Department, Chair for Theoretical Physics](#), Lviv, Ukraine
- Principal subjects/occupational skills covered Thesis Title: "Taking into account relativistic corrections for atomic interaction"
- Title of qualification awarded M.Sc. in Physics, diploma with honours

- Dates (from – to) 1981 – 1991
- Name and type of organization providing education and training State Secondary School #1, Kamin-Kashyrski, Ukraine
- Title of qualification awarded Certificate of Secondary Education with honours

PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUES

UKRAINIAN, RUSSIAN

OTHER LANGUAGES

- Reading skills
- Writing skills
- Verbal skills

POLISH	ENGLISH	GERMAN	FRENCH
Excellent	Excellent	Basic	Basic
Excellent	Good	Basic	Basic
Excellent	Good	Basic	Basic

TECHNICAL SKILLS AND COMPETENCES

Competent with MS and Open Office, LaTeX, Maple, Mathematica, HTML, PHP, MySQL. Experience in Linux Clustering with openMosix and parallel processing.

OTHER SKILLS AND COMPETENCES

Extensive scientific articles proofreading experience.
Hobbies: Enjoy marathon running, yoga, like to travel and experience different cultures.
Interests: Love to play strategic games (chess), solve puzzles, read science fiction.

MEMBERSHIPS

[Mensa Polska](#), [Milenija](#), [Tetra](#) and [GenerIQ](#) (prospective member) Societies.

1. [L. F. Blazhyevskiy, V. Kovalchuk](#) "About taking into account relativistic corrections for the resonant atomic interaction" *Lviv University Bulletin*, Issue **30**, pp. 6-8, 1998.
2. [V. Kovalchuk](#) "About relativistic attraction forces influence upon the thermodynamic characteristics of atomic hydrogen and inert gases" *Lviv University Bulletin*, Issue **31**, pp. 47-51, 1998.
3. [J. J. Ślawianowski, V. Kovalchuk](#) "Klein-Gordon-Dirac equation: physical justification and quantization attempts" *Reports on Mathematical Physics*, **49**, 2/3, pp. 249-257, 2002.
4. [J. J. Ślawianowski, V. Kovalchuk](#) "Invariant geodetic problems on the affine group and related Hamiltonian systems" *Reports on Mathematical Physics*, **51**, 2/3, pp. 371-379, 2003.
5. [J. J. Ślawianowski, V. Kovalchuk](#) "Invariant geodetic problems on the projective group $Pr(n,R)$ " *Proceedings of Institute of Mathematics of NAS of Ukraine*, editors: A. G. Nikitin, V. M. Boyko, R. O. Popovych, and I. A. Yehorchenko, **50**, part 2, pp. 955-960, Kyiv, Institute of Mathematics, 2004.
6. [V. Kovalchuk](#) "Green function for Klein-Gordon-Dirac equation" *Journal of Nonlinear Mathematical Physics*, **11**, Supplement, pp. 72-77, 2004.
7. [J. J. Ślawianowski, V. Kovalchuk](#) "Classical and quantized affine physics. A step towards it" *Journal of Nonlinear Mathematical Physics*, **11**, Supplement, pp. 157-166, 2004.
8. [J. J. Ślawianowski, V. Kovalchuk](#), A. Ślawianowska, B. Gołubowska, A. Martens, E. E. Rożko, Z. J. Zawistowski "Invariant geodetic systems on Lie groups and affine models of internal and collective degrees of freedom" *Prace IPPT – IFT Reports*, **7**, 2004, 164 p.
9. [J. J. Ślawianowski, V. Kovalchuk](#), A. Ślawianowska, B. Gołubowska, A. Martens, E. E. Rożko, Z. J. Zawistowski "Affine symmetry in mechanics of collective and internal modes. Part I. Classical models" *Reports on Mathematical Physics*, **54**, 3, pp. 373-427, 2004; [arXiv:0802.3027](#).
10. [J. J. Ślawianowski, V. Kovalchuk](#), A. Ślawianowska, B. Gołubowska, A. Martens, E. E. Rożko, Z. J. Zawistowski "Affine symmetry in mechanics of collective and internal modes. Part II. Quantum models" *Reports on Mathematical Physics*, **55**, 1, pp. 1-45, 2005; [arXiv:0802.3028](#).
11. [J. J. Ślawianowski, V. Kovalchuk](#), B. Gołubowska, A. Martens, E. E. Rożko "Dynamical systems with internal degrees of freedom in non-Euclidean spaces" *Prace IPPT – IFT Reports*, **8**, 2006, 129 p.; [arXiv:0802.3115](#).
12. [J. J. Ślawianowski, V. Kovalchuk](#) "Search for the geometrodynamical gauge group. Hypotheses and some results", in: "Geometry, Integrability and Quantization IX", Ed. Ivailo M. Mladenov, SOFTEX, Sofia, 2008, pp. 66-132.
13. [V. Kovalchuk, J. J. Ślawianowski](#) "Hamiltonian systems inspired by the Schrödinger equation" *SIGMA (Symmetry, Integrability and Geometry: Methods and Applications)*, **4**, 046, 9 pages, 2008; [arXiv:0805.4024](#).
14. [V. Kovalchuk, E. E. Rożko](#) "Classical models of affinely-rigid bodies with "thickness" in degenerate dimension" *Journal of Geometry and Symmetry in Physics*, **14**, pp. 51-65, 2009; reprinted in: "Geometry, Integrability and Quantization X", Eds. Ivailo M. Mladenov, Gaetano Vilasi and Akira Yoshioka, Avangard Prima, Sofia, 2009, pp. 197-210; [arXiv:0902.3573](#).
15. [J. J. Ślawianowski, V. Kovalchuk](#) "Symmetries and geometrically implied nonlinearities in mechanics and field theory", in: "Problems of stability and stabilization of motion", Eds. S. Ja. Stepanov and A. A. Burov, Bulletin of A. A. Dorodnitsyn Computing Centre, Russian Academy of Sciences, Moscow, 2009, pp. 119-150 (in Russian); [arXiv:0911.3818](#).
16. [J. J. Ślawianowski, V. Kovalchuk](#) "Schrödinger and related equations as Hamiltonian systems, manifolds of second-order tensors and new ideas of nonlinearity in quantum mechanics" *Reports on Mathematical Physics*, **65**, 1, pp. 29-76, 2010; [arXiv:0812.5055](#).
17. [J. J. Ślawianowski, V. Kovalchuk](#), B. Gołubowska, A. Martens, E. E. Rożko "Quantized excitations of internal affine modes and their influence on Raman spectra" *Acta Physica Polonica B*, **41**, 1, pp. 165-218, 2010; [arXiv:0901.0243](#).
18. [V. Kovalchuk](#) "On classical dynamics of affinely-rigid bodies subject to the Kirchhoff-Love constraints" *SIGMA (Symmetry, Integrability and Geometry: Methods and Applications)*, **6**, 031, 12 pages, 2010; [arXiv:1004.1248](#).

PUBLICATIONS (CONT.)

19. [J. J. Ślawianowski](#), [V. Kovalchuk](#), A. Martens, B. Gołubowska, E. E. Rożko "Quasiclassical and quantum systems of angular momentum. Part I. Group algebras as a framework for quantum-mechanical models with symmetries" [Journal of Geometry and Symmetry in Physics](#), **21**, pp. 61-94, 2011; [arXiv:1007.4121](#).
20. [J. J. Ślawianowski](#), [V. Kovalchuk](#), A. Martens, B. Gołubowska, E. E. Rożko "Quasiclassical and quantum systems of angular momentum. Part II. Quantum mechanics on Lie groups and methods of group algebras" [Journal of Geometry and Symmetry in Physics](#), **22**, pp. 67-94, 2011; [arXiv:1008.0512](#).
21. [J. J. Ślawianowski](#), [V. Kovalchuk](#), A. Martens, B. Gołubowska, E. E. Rożko "Quasiclassical and quantum systems of angular momentum. Part III. Group algebra $su(2)$, quantum angular momentum and quasiclassical asymptotics" [Journal of Geometry and Symmetry in Physics](#), **23**, pp. 59-95, 2011; [arXiv:1008.3074](#).
22. [J. J. Ślawianowski](#), [V. Kovalchuk](#), A. Martens, B. Gołubowska, E. E. Rożko "Quasiclassical and quantum dynamics of systems of angular momenta", in: "Geometry, Integrability and Quantization XII", Eds. Ivailo M. Mladenov, Gaetano Vilasi and Akira Yoshioka, Avangard Prima, Sofia, 2011, pp. 70-155.
23. [J. J. Ślawianowski](#), [V. Kovalchuk](#), A. Martens, B. Gołubowska, E. E. Rożko "Mechanics of systems of affine bodies. Geometric foundations and applications in dynamics of structured media" [Mathematical Methods in the Applied Sciences](#), **34**, pp. 1512-1540, 2011; [arXiv:1010.3333](#).
24. [J. J. Ślawianowski](#), [V. Kovalchuk](#), A. Martens, B. Gołubowska, E. E. Rożko "Essential nonlinearity implied by symmetry group. Problems of affine invariance in mechanics and physics", to be published in: "Analytical and Geometrical Problems in Continuum Mechanics", a special issue of [Discrete and Continuous Dynamical Systems - Series B](#), 2011.
25. [J. J. Ślawianowski](#), [V. Kovalchuk](#), A. Martens, B. Gołubowska, E. E. Rożko "Generalized Weyl-Wigner-Moyal formalism and topological groups", to be published in: [Mathematical Methods in the Applied Sciences](#), 2011; [arXiv:1012.5768](#).

GRANTS

- Nr, granted by, years (from – to)
 - Title of research project
 - Nature of participation
- N N501 049 540, Scientific Research Support Fund, 2011-2014
"Nonlinearity, geometry and quantum processes in complex material structures"
Contractor
- Nr, granted by, years (from – to)
 - Title of research project
 - Nature of participation
- Nr 501 018 32/1992, Scientific Research Support Fund, 2007-2010
"Quantum foundations for nonlinear dynamics of structured media: nano, micro, macro"
Contractor
- Nr, granted by, years (from – to)
 - Title of research project
 - Nature of participation
- Nr 4 T07A 032 28, Ministry of Scientific Research and Information Technology, 2005
"Nonlinear dynamics of collective deformation modes and its application in mechanics of media with micro- and nanostructures"
Contractor
- Nr, granted by, years (from – to)
 - Title of research project
 - Nature of participation
- Nr 8 T07A 047 20, Committee of Scientific Research (KBN), 2001-2003
"Mechanical systems with internal degrees of freedom in manifolds with nontrivial geometry"
Contractor

AWARDS

"2000 Outstanding Intellectuals of the 21st Century - 2011" Award, the honour granted by the Board of Editors, [International Biographical Centre](#), Cambridge, England, 25th March, 2011.