

CURRICULUM VITAE

Marko Vojinović

Personal Data

Date of birth: 28. March 1978.
Place of birth: Pančevo, Republic of Serbia
Citizenship: Serbian
Marital status: Single
Contact: Group for Gravitation, Particles and Fields
Institute of Physics, University of Belgrade
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Affiliations

10/2016 – present: Associate Research Professor at Group for Gravitation, Particles and Fields
Institute of Physics, University of Belgrade
[\[http://www.gravity.ipb.ac.rs/\]](http://www.gravity.ipb.ac.rs/)

03/2016 – 10/2016: Assistant Research Professor at Group for Gravitation, Particles and Fields
Institute of Physics, University of Belgrade
[\[http://www.gravity.ipb.ac.rs/\]](http://www.gravity.ipb.ac.rs/)

03/2013 – 03/2016: Post-doc researcher at Group of Mathematical Physics
Institute for Interdisciplinary Research, University of Lisbon
[\[http://gfm.cii.fc.ul.pt/\]](http://gfm.cii.fc.ul.pt/)

03/2012 – 03/2013: Assistant Research Professor at Group for Gravitation, Particles and Fields
Institute of Physics, University of Belgrade
[\[http://www.gravity.ipb.ac.rs/\]](http://www.gravity.ipb.ac.rs/)

03/2009 – 03/2012: Post-doc researcher at Group of Mathematical Physics
Institute for Interdisciplinary Research, University of Lisbon
[\[http://gfm.cii.fc.ul.pt/\]](http://gfm.cii.fc.ul.pt/)

10/2006 – 03/2009: Research Assistant at Group for Gravitation, Particles and Fields
Institute of Physics, University of Belgrade
[\[http://www.gravity.ipb.ac.rs/\]](http://www.gravity.ipb.ac.rs/)

10/1997 – 07/2008: Major/Master/PhD student at Theoretical Physics department
Faculty of Physics, University of Belgrade
[\[http://www.ff.bg.ac.rs/\]](http://www.ff.bg.ac.rs/)

Research Interests

- quantum gravity and general relativity
- foundations of quantum mechanics
- category theory
- field theories, unification of interactions
- quantum information theory
- algebraic topology

Publications — papers

- [18] *Hamiltonian analysis of the BF_{CG} formulation of general relativity*
A. Miković, M. A. Oliveira and M. Vojinović, *Class. Quant. Grav.* **36**, 015005 (2019) [[arXiv:1807.06354](#)]
- [17] *Gauge protected entanglement between gravity and matter*
N. Paunković and M. Vojinović, *Class. Quant. Grav.* **35**, 185015 (2018) [[arXiv:1702.07744](#)]
- [16] *Causal dynamical triangulations in the spincube model of quantum gravity*
M. Vojinović, *Phys. Rev. D* **94**, 024058 (2016) [[arXiv:1506.06839](#)]
- [15] *Hamiltonian analysis of the BF_{CG} theory for the Poincaré 2-group*
A. Miković, M. A. Oliveira and M. Vojinović, *Class. Quant. Grav.* **33**, 065007 (2016) [[arXiv:1508.05635](#)]
- [14] *Solution to the Cosmological Constant Problem in a Regge Quantum Gravity Model*
A. Miković and M. Vojinović, *Europhys. Lett.* **110**, 40008 (2015) [[arXiv:1407.1394](#)]
- [13] *Cosine problem in EPRL/FK spin foam model*
M. Vojinović, *Gen. Relativ. Gravit.* **46**, 1616 (2014) [[arXiv:1307.5352](#)]
- [12] *A finiteness bound for the EPRL/FK spin foam model*
A. Miković and M. Vojinović, *Class. Quant. Grav.* **30**, 035001 (2013) [[arXiv:1101.3294](#)]
- [11] *Poincaré 2-group and quantum gravity*
A. Miković and M. Vojinović, *Class. Quant. Grav.* **29**, 165003 (2012) [[arXiv:1110.4694](#)]
- [10] *Effective action for EPRL/FK spin foam models*
A. Miković and M. Vojinović, *Jour. Phys. Conf. Ser.* **360**, 012049 (2012) [[arXiv:1110.6114](#)]
- [9] *Effective action and semiclassical limit of spin foam models*
A. Miković and M. Vojinović, *Class. Quant. Grav.* **28**, 225004 (2011) [[arXiv:1104.1384](#)]
- [8] *Large-spin asymptotics of Euclidean LQG flat-space wavefunctions*
A. Miković and M. Vojinović, *Adv. Theor. Math. Phys.* **15**, 801 (2011) [[arXiv:1005.1866](#)]
- [7] *Test membranes in Riemann-Cartan spacetimes*
M. Vasilic and M. Vojinović, *Phys. Rev. D* **81**, 024025 (2010) [[arXiv:0812.4694](#)]
- [6] *Spinning branes in Riemann-Cartan spacetime*
M. Vasilic and M. Vojinović, *Phys. Rev. D* **78**, 104002 (2008) [[arXiv:1010.1861](#)]
- [5] *Zero-size objects in Riemann-Cartan spacetime*
M. Vasilic and M. Vojinović, *JHEP* **08** 104 (2008) [[arXiv:0807.0596](#)]
- [4] *Interaction of particle with the string in pole-dipole approximation*
M. Vasilic and M. Vojinović, *Fortschr. Phys.* **56**, 542 (2008) [[arXiv:1010.1852](#)]
- [3] *Single-Pole Interaction of the Particle with the String*
M. Vasilic and M. Vojinović, *SIGMA* **4**, 019 (2008) [[arXiv:0802.1655](#)]
- [2] *Classical spinning branes in curved backgrounds*
M. Vasilic and M. Vojinović, *JHEP* **07** 028 (2007) [[arXiv:0707.3395](#)]
- [1] *Classical string in curved backgrounds*
M. Vasilic and M. Vojinović, *Phys. Rev. D* **73**, 124013 (2006) [[arXiv:gr-qc/0610014](#)]

Publications — editorials

- [1] *Proceedings of the 9th Mathematical Physics Meeting: School and Conference on Modern Mathematical Physics*
Ed. B. Dragovich, I. Salom and M. Vojinović, *SFIN XXXI*, 1–324 (2018)
Published by Institute of Physics, Belgrade, Serbia, ISBN 978-86-82441-48-9 [[electronic version](#)]

Publications — conference proceedings

- [7] *Quantum gravity for piecewise flat spacetimes*
A. Miković and M. Vojinović, *SFIN XXXI*, 267 (2018)
Proceedings of the 9th Mathematical Physics Meeting: School and Conference on Modern Mathematical Physics, September 18-23 2017, Ed. B. Dragovich, I. Salom and M. Vojinović, Institute of Physics, Belgrade, Serbia. [[arXiv:1804.02560](#)]
- [6] *Gravity-Matter entanglement in Regge quantum gravity*
N. Paunković and M. Vojinović, *Jour. Phys. Conf. Ser.* **701**, 012035 (2016) [[arXiv:1601.06831](#)]
- [5] *Categorical generalization of spinfoam models*
A. Miković and M. Vojinović, *Jour. Phys. Conf. Ser.* **532**, 012020 (2014) [[arXiv:1512.06252](#)]
- [4] *Spincube model of quantum gravity*
M. Vojinović, *SFIN XXVI*, 361 (2013)
Proceedings of the 7th Mathematical Physics Meeting: Summer School and Conference on Modern Mathematical Physics, September 9-19 2012, Ed. B. Dragovich and Z. Rakić, Institute of Physics, Belgrade, Serbia. [[electronic version](#)]
- [3] *Category theory in spincube model of quantum gravity*
M. Vojinović, *Proceedings of the Vth Petrov International Symposium “High Energy Physics, Cosmology and Gravity”*, April 29 - May 5 2012, Ed. S. S. Moskaliuk, TIMPANI, Kyiv, Ukraine, p. 287 (2012) [[electronic version](#)]
- [2] *Effective action for EPRL/FK spin foam models*
A. Miković and M. Vojinović, *Jour. Phys. Conf. Ser.* **360**, 012049 (2012) [[arXiv:1110.6114](#)]
- [1] *Classical string in curved backgrounds*
M. Vasilović and M. Vojinović, *SFIN XX*, 403 (2007)
Proceedings of the 4th Summer School in Modern Mathematical Physics, September 3-14 2006, Ed. B. Dragovich and Z. Rakić, Institute of Physics, Belgrade, Serbia [[electronic version](#)]

Research Projects

- Project name: “[Causality in Quantum Mechanics and Quantum Gravity - 2018-2019](#)”
Institution: Institute of Physics, University of Belgrade (bilateral project between Austria and Serbia)
Status: In progress
Leadership: Marko Vojinović (Serbia), Časlav Brukner (Austria)
- Project name: “[Quantum Gravity and Quantum Integrable Models - 2015-2016](#)”
Institution: Group of Mathematical Physics, University of Lisbon (bilateral project between Portugal and Serbia)
Status: Completed successfully
Leadership: Djordje Šijački (Serbia), Aleksandar Miković (Portugal)

- Project name: [“Strategic Project - UI 208 - 2013-2014”](#)
Institution: Group of Mathematical Physics, University of Lisbon
Status: Completed successfully
Leadership: Jean-Claude Zambrini
- Project name: “Physical implications of modified spacetime”
Institution: Institute of Physics, University of Belgrade
Status: In progress
Leadership: Maja Burić
- Project name: [“Strategic Project - UI 208 - 2011-2012”](#)
Institution: Group of Mathematical Physics, University of Lisbon
Status: Completed successfully
Leadership: Jean-Claude Zambrini
- Project name: [“Algebroids, Geometry, Quantum Groups and Applications”](#)
Institution: Faculty of Sciences and Technology, University of Coimbra
Status: Completed successfully
Leadership: Joana Margarida Mavigne Andrade A. S. Nunes da Costa
- Project name: “Constituents, Fundamental Forces and Symmetries of the Universe”
Institution: Marie Curie Research Training Network (European Community FP6),
Institute for Nuclear Research and Nuclear Energy, Sofia, Bulgaria
Status: Completed successfully
Leadership: Dieter Lüst
- Project name: “Alternative theories of gravity”
Institution: Institute of Physics, University of Belgrade
Status: Completed successfully
Leadership: Milutin Blagojević
- Project name: “Gradient theories of gravity: symmetry and dynamics”
Institution: Institute of Physics, University of Belgrade
Status: Completed successfully
Leadership: Branislav Sazdović

Education

10/2006 – 07/2008:	Faculty of Physics, University of Belgrade Theoretical Physics PhD
11/2003 – 10/2006:	Faculty of Physics, University of Belgrade Theoretical Physics Master
10/1997 – 09/2002:	Faculty of Physics, University of Belgrade GPA: 9.68 out of 10.00; Theoretical Physics Major
09/1993 – 06/1997:	High School of Mathematics in Belgrade specialized in mathematics, physics and computer science

Theses

- 07/2008 PhD thesis: "[Motion of extended objects in gravitational field with torsion](#)"
Group for Gravitation, Particles and Fields, University of Belgrade
Thesis supervisor: prof. dr Milovan Vasilic
- 10/2006 Master thesis: "[Classical string motion in curved spacetimes](#)"
Group for Gravitation, Particles and Fields, University of Belgrade
Thesis supervisor: prof. dr Milovan Vasilic
- 09/2002 Diploma thesis: "[Duality Symmetry in Born-Infeld Electrodynamics](#)"
Group for Gravitation, Particles and Fields, University of Belgrade
Thesis supervisor: prof. dr Maja Burić

Contributed talks, seminars and visits

- 2 April 2019, Valjevo, Serbia (invited talk)
[Visit to the Petnica Science Center](#)
- 15 March 2019, Novi Sad, Serbia (invited talk)
[Visit to the Department for Physics, University of Novi Sad](#)
- 23 - 28 September 2018, Vienna, Austria (poster)
[Relativistic Quantum Information North 2018](#)
- 7 - 9 September 2018, Zlatibor, Serbia (talk)
[Gravity and String Theory: New ideas for unsolved problems III](#)
- 1 February 2018, Belgrade, Serbia
[Workshop on Gravity, Holography, Strings and Noncommutative Geometry](#)
- 16 October - 15 December 2017, Vienna, Austria (invited talk)
[Visit to the group for Quantum Foundations and Quantum Information Theory at the University of Vienna](#)
- 18 - 23 September 2017, Belgrade, Serbia (talk)
[9th Meeting on Modern Mathematical Physics](#)
- 3 - 7 July 2017, Warsaw, Poland (talk)
[Loops17 conference](#)
- 26 - 28 June 2017, Bad Honnef, Germany (poster)
[Heraeus-seminar workshop "Gravitational decoherence"](#)
- 19 - 23 June 2017, Vienna, Austria (talk)
[ESI Workshop "Quantum Physics and Gravity"](#)
- 18 - 20 October 2016, Geneva, Switzerland (invited talk)
[Visit to the group for Philosophy of Quantum Gravity at the University of Geneva](#)
- 17 - 24 October 2016, Geneva, Switzerland
[Visit to CERN and the CMS experiment](#)
- 12 - 17 September 2016, Szczecin, Poland (talk)
[VARCOSMOFUN'16 conference](#)
- 21 - 28 August 2016, Belgrade, Serbia
[COST QSPACE training school: Quantum Structure of Spacetime and Gravity](#)

- 7 - 9 December 2015, Munich, Germany
Conference: [Why Trust a Theory?](#)
- 8 - 15 November 2015, Nijmegen, Netherlands (invited talk)
[Visit to the Quantum Gravity group at Radboud University, Nijmegen](#)
- 23 - 25 October 2015, Vienna, Austria (poster)
[EmQM15 conference](#)
- 6 - 10 July 2015, Erlangen, Germany (talk)
[Loops15 conference](#)
- 24 - 31 August 2014, Belgrade, Serbia (talk)
[8th Meeting on Modern Mathematical Physics](#)
- 19 - 22 September 2013, Divčibare, Serbia (talk)
[Gravity: New Ideas for Unsolved Problems II](#)
- 8 - 12 October 2012, Erlangen, Germany
[First Erlangen Fall School on Quantum Geometry](#)
- 9 - 19 September 2012, Belgrade, Serbia (talk)
[7th Meeting on Modern Mathematical Physics](#)
- 3 - 7 September 2012, Olhão, Portugal (talk)
[Quantum Integrable Systems and Geometry Workshop](#)
- 10 - 13 July 2012, Tallinn, Estonia (talk)
[3Quantum: Algebra Geometry Information Conference](#)
- 29 April - 5 May 2012, Kyiv, Ukraine (invited talk)
[The Fifth Petrov International Symposium on High Energy Physics, Cosmology and Gravity](#)
- 12 - 14 September 2011, Divčibare, Serbia (talk)
[Gravity: New Ideas for Unsolved Problems Workshop](#)
- 23 - 28 May 2011, Madrid, Spain (talk)
[Loops11 Conference](#)
- 9 - 10 May 2011, Marseille, France (invited talk)
[Visit to the Quantum Gravity group at Centre de Physique Thorique de Luminy, Marseille](#)
- 5 - 30 April 2011, Belgrade, Serbia (4 invited talks)
[Visit to Group for Gravitation, Particles and Fields](#)
- 18 - 19 March 2011, Nice, France
[Quantum Gravity Quantum Fields Theory Workshop](#)
- 28 February - 13 March 2011, Zakopane, Poland
[The Third Quantum Gravity and Quantum Geometry School](#)
- 7 - 13 February 2011, Lisbon, Portugal
[Workshop and School on Higher Gauge Theory, TQFT and Quantum Gravity](#)
- 2 - 4 October 2010, Faro, Portugal
[Visit to Department of Mathematics, Faculty for Science and Technology, University of Algarve](#)
- 14 - 23 September 2010, Belgrade, Serbia (talk)
[6th Meeting on Modern Mathematical Physics](#)

- 5 - 9 July 2010, Mexico City, Mexico (talk)
[19th International Conference on General Relativity and Gravitation \(GR19\)](#)
- 23 June - 3 July 2010, Morelia, Mexico
[PASI Quantum Gravity Summer School](#)
- 6 - 20 September 2009, Corfu, Greece
[School and Workshop on Cosmology, Strings, Quantum Gravity and Quantum Geometry](#)
- 6 - 17 July 2008, Belgrade, Serbia (talk)
[5th Meeting on Modern Mathematical Physics](#)
- 8 April - 5 July 2008, Sofia, Bulgaria
[Three-month collaboration with the Theory of Elementary Particles group, INRNE, Bulgarian Academy of Sciences](#)
- 26 - 28 September 2007, Iriški Venac, Serbia (talk)
[Fundamental Interactions Serbia 2007 Conference](#)
- 2 - 9 September 2007, Kladovo, Serbia (talk)
[BW2007 - III Southeastern European Workshop: Challenges Beyond the Standard Model](#)
- 24 - 30 June 2007, Kyiv, Ukraine (talk)
[Seventh Conference on Symmetry in Nonlinear Mathematical Physics](#)
- 8 - 13 June 2007, Prague, Czech Republic
[Advanced Summer School on Integrable Systems and Quantum Symmetries](#)
- 3 - 14 September 2006, Belgrade, Serbia (talk)
[4th Meeting on Modern Mathematical Physics](#)
- 25 September - 5 October 2005, Geneva, Switzerland
[Working visit to CERN regarding the GRID infrastructure and the ATLAS experiment](#)
- 16 July - 1 August 2005, Santo Stefano del Sole, Italy
[VIII Italian Diffiety Summer School](#)
- 27 - 28 June 2005, Belgrade, Serbia
[Theory of Relativity 2005 Conference](#)
- 23 March 2005, Belgrade, Serbia
[Triumph of Physics of the XX Century, a Conference for Popularization of Physics](#)
- 20 - 31 August 2004, Zlatibor, Serbia
[3rd Meeting on Modern Mathematical Physics](#)
- 2 - 6 June 2004, Petrovac, Montenegro (poster)
[Serbia and Montenegro Physics Congress 2004](#)
- 29 August - 2 September 2003, Vrnjačka Banja, Serbia
[BW2003 - I Southeastern European Workshop: Challenges Beyond the Standard Model](#)
- 24 - 29 August 2003, Vrnjačka Banja, Serbia
[5th Balkan Physical Union Conference \(BPU-5\)](#)
- 30 June - 5 July 2003, Torino, Italy
[Second Graduate School in Physics at Colliders](#)

- 1 - 12 September 2002, Kopaonik, Serbia
[2rd Meeting on Modern Mathematical Physics](#)

References

Dr. Jean Claude Zambrini
 Group of Mathematical Physics
 University of Lisbon
jczambrini@gmail.com

Dr. Maja Burić
 Faculty of Physics
 University of Belgrade
majab@ipb.ac.rs

Dr. Aleksandar Miković
 Department of Mathematics
 Lusofona University
amikovic@ulusofona.pt

Awards

- 02/2003 “Best Student of the Generation” Belgrade University Award
- 12/2002 “Prof. dr Lj. Čirković” Award for the best diploma thesis in physics
- 10/2001 “To a Promising Generation” Award of Norwegian Government

Grants and scholarships

- 2017 Joint Excellence in Science and Humanities (JESH) grant of the Austrian Academy of Sciences (ÖAW), Austria
- 2015 Short Term Scientific Mission (STSM) grant of the COST Action MP1405 “Quantum Structure of Spacetime”
- 2013 – 2016 Post-doctoral scholarship of the Foundation for Science and Technology, Portugal
- 2009 – 2012 Post-doctoral scholarship of the Foundation for Science and Technology, Portugal
- 2002 – 2003 Scholarship of the Serbian Ministry of Science and Environmental Protection

Activities

2019	Co-chair of the Organizing Committee for the X Mathematical Physics Meeting
2018	Member of the Organizing Committee for the Workshop on Gravity and String Theory: New ideas for unsolved problems III
2018	Co-chair of the Organizing Committee for the Workshop on Gravity, Holography, Strings and Noncommutative Geometry
2017	Member of the Organizing Committee for the IX Mathematical Physics Meeting
2016	Member of the Organizing Committee for the COST QSPACE Belgrade training school
2015	Member of the Organizing Committee for the GR100 Belgrade Conference
2014	Member of the Organizing Committee for the VIII Mathematical Physics Meeting
2012	Supervisor of six Diploma theses in High School of Mathematics, Belgrade
2012	Professor of physics for the final year of High School of Mathematics, Belgrade
2012	Member of the Organizing Committee for the VII Mathematical Physics Meeting
2012	Member of the Organizing Committee for the Quantum Integrable Systems and Geometry Workshop
2011	Member of the Organizing Committee for the workshop Gravity: New Ideas for Unsolved Problems
2008	Member of the Organizing Committee for the V Mathematical Physics Meeting
2007	Supervisor of one Diploma thesis in High School of Mathematics, Belgrade
2006	Member of the Organizing Committee for the IV Summer School in Modern Mathematical Physics
2005	Member of the Organizing Committee for the Theory of Relativity Event, (as a part of the World Year of Physics) — editor-in-chief for multimedia
2005	Member of the Organizing Committee for the Triumph of Physics Event, (as a part of the World Year of Physics) — editor-in-chief for videoconferencing facilities
2004 – 2006	Member of the Editorial Board of the "Young Physicist", popular science magazine for pupils and students
2004 – 2005	Senior Associate in Petnica Science Center, Serbia, working with pupils exceptionally talented in physics
2001 – 2003	Student member of the Disciplinary Board of the Faculty of Physics, Belgrade

Computer and IT Skills

- Advanced knowledge of \TeX , Mathematica, Prolog, C, bash scripting, assembly language
- Administrative knowledge of Linux operating systems
- Administrative knowledge of network and TCP/IP services
- Experience with HPC cluster building and deployment, videoconferencing, digital video editing
- Experience with massive parallelization and GRID infrastructure

Language Skills

English (fluent), **Serbian** (native)