Curriculum Vitae

Dimitri Vey
Research & Teaching[1]

Name | Dimitri Vey
Degrees | Ph.D. – Habilitation MCF (25 & 29)
Citizenship | French
Languages | French (Mother Tongue), English (Fluent), Spanish & Italian (Basic), C/C++, PHP, HTML, CSS, SQL (Basic) – LaTeX (Fluent)

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www | http://mayaloop.gie.im/DVEY
ArXiv — Orcid — Hal — RG — Schoolar

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[1]update : October 1, 2018

1 Academic Degrees

1.1 Degrees

9/**09** | PH.D. | Mathematical–Physics[2]
11/**12** | Very honourable Distinction, Paris 7–Paris Diderot University | Paris, France | Multi-symplectic Gravity, HAL : https://hal.archives-ouvertes.fr/tel-01242623v1

9/**06** | MASTER | Fundamental Physics
6/**09** | (Physique Fondamentale et Sciences pour l'Ingénieur), Paris 7–Paris Diderot University | Orsay, France
M2 : NPAC (Noyaux, Particules, Astroparticules, Cosmologie)
M1 : Magistère de Physique Fondamentale.

6/**05** | LICENCE | Fundamental Physics
9/**02** | Blaise Pascal University, Clermont 2 | Clermont–Ferrand, France
L3 : Licence de Physique Fondamentale
L2 : DEUG Sciences de la Matière, Physique–Chimie.

1.2 Habilitations

2/**16** | MCF – Maître de Conférence
2/**20** | Section 25 – Mathematics | Nu : 16225247600

1/**16** | MCF – Maître de Conférence
1/**20** | Section 29 – Fundamental Physics (Constituants Élémentaires) | Nu: 16229247600

2 Work Experiences

2.1 Teaching

9/**18** | ASSISTANT PROFESSOR | Physics
-/— | Département de Physique et Sciences de l'Ingénieur, ESME – École spéciale de Mécanique et d'Éléctricité | Lyon, France

9/**17** | ASSISTANT PROFESSOR | Physics
4/**18** | Department of Physics and Engineering Sciences, EISTI – École Internationale des Sciences et Techniques de l'Information | Pau, France

11/**13** | LECTURER | Doctoral School
2/**14** | SPHERE Laboratory, UMR 7219, Paris 7–Paris Diderot University, ERC Philosophy of Canonical Quantum Gravity | Paris, France

9/**10** | LECTURER | Mechanics
9/**12** | Department of Physics, Paris 7–Paris Diderot University | Paris, France

[2]TOPICS : Mathematical–Physics, Differential Geometry, General Relativity. | JURY :
JEREMY BUTTERFIELD – Trinity College, University of Cambridge
FRÉDÉRIC HÉLEIN (President) – IMJ (Institut de Mathématiques de Jussieu), Paris 7–Paris Diderot University
JOSEPH KOUNEIHER (Director) – LUTH (Laboratoire Univers et THéories), Paris 7–Paris Diderot University & Nice Sophia Antipolis University
VOLODYA RUBTSOV (Examinator) – Department of Mathematics, University of Angers & ITEP (Institute for Theoretical and Experimental Physics), Moscow
THIERRY MASSON (Examinator) – CPT (Centre de Physique Théorique), Aix-Marseille University
JOHN STACHEL – Boston University & Center for Einstein Studies

2.2 Research

1/**15** -/— RESEARCHER | Geometry, Algebra & Topology
Nomad Institute | Paris, Lyon, Marseille, France

7/**15** 8/**15** RESEARCHER | Visiting Fellow
Departamento de Matemáticas, Universidad Nacional & Departamento de Fisicá, Universidad de los Andes | Bogotá, Colombia

10/**13** 10/**14** POSTDOCTORAL POSITION | Quantum Gravity
CNRS, SPHERE Laboratory, UMR 7219 – Paris 7–Paris Diderot University, ERC Philosophy of Canonical Quantum Gravity | Paris, France

9/**09** 11/**12** RESEARCHER | Mathematical–Physics
Department of Cosmology and Gravitation, LUTH – Laboratory Univers et Théories, UMR 8102 – Paris 7–Paris Diderot University | Meudon, France

9/**10** 4/**11** RESEARCHER | Mathematical–Physics
Department of Theoretical Physics, INLN – Institut Non-Linéaire de Nice – UMR 7335, Nice Sophia Antipolis University | Sophia-Antipolis, France

4/**09** 6/**09** INTERNSHIP
Department Theory, APC Laboratory – Astroparticules et Cosmologie – Paris 7–Paris Diderot University | Paris, France

5/**07** 8/**07** INTERNSHIP
Departamento de Gravitacion y Cosmologia, UAM–I – Universidad Autónoma Metropolitana, Iztapalapa | Mexico D.F., Mexico

3 Research Activities

3.1 Research Interests

Mathematics

GEOMETRY | Differential Geometry – Riemannian, (multi)symplectic and Poisson Geometries, Geometry of Differential Equations, Noncommutative Geometry

ALGEBRA | Abstract Algebra, Linear Algebra, Representation theory, Lie Group, Lie Algebra, Pseudo-group, Groupoïds, Algebroïds

ALGEBRAIC GEOMETRY & TOPOLOGY | Homotopy, Homology, Cohomology, Higher Geometries, Higher Structures, ∞–algebra, ∞–topoi

ANALYSIS | Dynamical Systems, Harmonic Analysis, Functional Analysis, Spectral Analysis, Variational Calculus, Variational Sequences

Mathematical–Physics

QUANTUM FIELD THEORY | General Relativity, Gauge Theory, Topological Field Theory, Geometric Quantization, Deformation Quantization

GRAVITATION & GEOMETRY | Weyl–Einstein–Cartan, Quantum Gravity, String Theory, Loop Quantum Gravity, Quantum Geometry, Higher Gauge Gravity

3.2 Publications

Refereed Publications

1/**17** F. Hélein and D. Vey, Curved space-times by crystallization of liquid fiber bundles, Found. Phys. (2017) 47: 1, 1–41, doi:10.1007/s10701-016-0039-2.

4/**15** D. Vey, Multisymplectic formulation of vielbein gravity. I. De Donder–Weyl formulation, Hamiltonian $(n-1)$-forms, — Class. and Quantum Grav. 32 095005 (2015), doi:10.1088/0264-9381/32/9/095005

Proceedings

8/**15** F. Hélein and D. Vey, Generalized Hamiltonian Gravity
D. Krupka et al. (eds.), Extended Abstract Book, *20th International Summer School on Global Analysis and its Applications*, Stará Lesná, Slovakia, August 17-21, University of Presov (2015).
Synthesis-conferences-2015-[200216], doi:10.13140/RG.2.1.3953.2401.

6/**12** D. Vey, Multisymplectic Geometry and the notion of observables,
AIP Conf. Proc. 1446 (2012). doi:10.1063/1.4727996

Preprint

12/**16** D. Vey, 10-plectic formulation of gravity and Cartan connections
https://hal.archives-ouvertes.fr/hal-01408289

3/**13** D. Vey, n-plectic Maxwell Theory
https://arxiv.org/abs/1303.2192

Edition

6/**12** Frontiers of Fundamental Physics: The Eleventh International Symposium,
Editeurs: C. Barbachoux, J. Kouneiher, T. Masson and D. Vey.
AIP Conf. Proc. 1446 (2012), doi/abs/10.1063/v1446

Ongoings

–/**18** D. Vey et al. Higher Geometry and Gravity

D. Vey, Multisymplectic formulation of vielbein gravity II. Algebraic observable $(n-1)$-forms in the De Donder-Weyl theory

D. Vey, Multisymplectic formulation of vielbein gravity III. Observables forms, canonically conjugate forms and bracket

D. Vey, Higher symplectic formulation of BF theory and gravity,

D. Vey, Variational and symplectic analysis of covariant first order gravity

S. Barkat and D. Vey, Non-linear dynamics, chaos and self-organization in some natural theories

3.3 Conferences

Invitations $^\flat$ **– Contributions** $^\sharp$ **– Seminar** †

28/11/**15**	Non-linear dynamics, chaos and self-organization in some natural theories $^\flat$ Apothikes Gallery, Workshop Order and Disorder | Larnaca, Cyprus SLIDES – PART 1, DOI:10.13140/RG.2.2.15489.56161 SLIDES – PART 2, DOI:10.13140/RG.2.2.31427.91685
25/11/**15**	Un chemin à travers l'ordre et le désordre $^\flat$ Institut Français de Chypre, Workshop Order and Disorder, | Nicosia, Cyprus
21/8/**15**	Generalized Hamiltonian Gravity $^\sharp$ 20th International Summer School on Global Analysis and its Applications. General Relativity: 100 years after Hilbert | Stará Lesná, Slovakia SLIDES : DOI: 10.13140/RG.2.1.1337.7682
4/8/**15**	m-plectic formulation of n-bein gravity $^\flat$ Universidad Nacional, Departamento de Matemáticas | Bogotá, Colombia
3/8/**15**	Observables and brackets in the Hamiltonian formulation of physical theories $^\flat$ Universidad de los Andes, Departamento de Física | Bogotá, Colombia SLIDES : DOI: 10.13140/RG.2.1.4024.7442
27/7/**15**	Hamiltonian Covariant formalism and higher symplectic geometry $^\flat$ Universidad de los Andes, | Villa de Leyva, Colombia
11/6/**15**	Formulation multisymplectique de la vierbein gravité $^\flat$ Department of Mathematics, Paris 7–Paris Diderot University | Paris, France
28/4/**14**	From Dirac heurisitic approach to the multisymplectic general framework: The observables in the physical theories $^\flat$ Congrés de la Société francaise d'histoire des sciences et des techniques, Université Claude Bernard, Lyon 1 | Lyon, France
5/2/**14**	Observables and Generalized Relativity: The n-plectic approach (2) † Séminaire Phil.Phys.Math. Paris 7–Paris Diderot University | Paris, France
29/1/**14**	Observables and Generalized Relativity: The n-plectic approach (1) † Séminaire Phil.Phys.Math. Paris 7–Paris Diderot University | Paris, France
4/12/**13**	Gravity and Topological Field Theory (5) † Séminaire Phil.Phys.Math. Paris 7–Paris Diderot University | Paris, France
27/11/**13**	Gravity and Topological Field Theory (4) † Séminaire Phil.Phys.Math. Paris 7–Paris Diderot University | Paris, France
20/11/**13**	Gravity and Topological Field Theory (3) † Séminaire Phil.Phys.Math. Paris 7–Paris Diderot University | Paris, France
13/11/**13**	Gravity and Topological Field Theory (2) † Séminaire Phil.Phys.Math. Paris 7–Paris Diderot University | Paris, France
6/11/**13**	Gravity and Topological Field Theory (1) † Séminaire Phil.Phys.Math. Paris 7–Paris Diderot University | Paris, France

31/10/**12** Towards Multisymplectic Gravity ♯
5th SCGSC (Strings, Cosmology and Gravity Student Conference), IHP (Institut Henri Poincaré) | Paris, France

24/6/**11** A Glimpse Into Multisymplectic Gravity. †
Séminaire LUTH (Laboratoire Univers et Théories), Paris 7–Paris Diderot University | Meudon, France

10/3/**11** Differential Geometry for General Relativity (2) †
Seminar at l'INLN (Institut Non-Linéaire de Nice) | Sophia-Antipolis, France

3/3/**11** Differential Geometry for General Relativity (1) †
Seminar at l'INLN (Institut Non-Linéaire de Nice) | Sophia-Antipolis, France

14/6/**10** Covariant formulation and Loop Quantum Gravity †
Seminar at LUTH (Laboratoire Univers et Théories), Paris 7–Paris Diderot University | Meudon, France

Organization Committee

2/**14** Philosophy of Mechanics: Mathematical Foundations,
ERC Philosophy of Canonical Quantum Gravity, Paris 7–Paris Diderot University, 12–14 February 2014 | Paris, France | https://philoquantcoll1.sciencesconf.org/

11/**13** Geometry and Physics II.
International Fall Workshop, IHP (Institut Henri Poincaré), 28–29 November 2013 | Paris, France | http://geometryandphysics2.gie.im/

3/**11** Quantum Gravity Quantum Field Theory: Physical, Mathematical and Philosophical Perspectives
J.A. Dieudonné Laboratory, Nice Sophia Antipolis University , 18–19 March 2011 | Nice, France

11/**10** Mathematical Physics Lectures: Quantum Gravity and Quantum Geometry
INLN (Institut Non-Linéaire de Nice), Nice Sophia Antipolis University , 19 November 2010. | Sophia-Antipolis, France

10/**10** Geometry and Physics I.
ENS (École Normale Supérieure), 29 October 2010 | Paris, France

Attended Meetings & Schools

9/**18** Workshop on multisymplectic geometry and applications
Metz-Technopole, 6–8 September 2018 | Metz, France

6/**17** JMPLYON2017 : Quantum Field Theories on Curved Space-Times
ICJ (Institut Camille Jordan), 7–9 June 2017 | Lyon, France

6/**16** Séminaire de Géométrie et Quantification, co-organized by Pierre Cartier, Yvette Kosmann-Schwarzbach et Camille Laurent-Gengoux
IHP (Institut Henri Poincaré), 10 June 2016 | Paris, France

5/**16**	CarloFest: Celebrating Carlo Rovelli's 60 birthday. A Journey from Quantum Gravity to Philosophy, Aix-Marseille University, 23–27 May 2016 | Marseille, France
11/**15**	General Relativity: A celebration of the 100th anniversary IHP (Institut Henri Poincaré), 16-20 November 2015. | Paris, France
9/**15**	Recent advances in General Relativity IHP (Institut Henri Poincaré), 23-25 September 2015. | Paris, France
8/**15**	20th International Summer School on Global Analysis and its Applications Congress Center Academia, 17-21 August 2015 | Stará Lesná, Slovakia
7/**15**	Geometric, Algebraic and Topological Methods for Quantum Field Theory Villa de Leyva Summer School, 20–31 July 2015 | Villa de Leyva, Colombia
7/**11**	Eleventh international Symposium. Frontiers of Fundamental Physics FFP11 Paris 7–Paris Diderot University, 6–9 July 2011 | Paris, France
11/**09**	Mathematical methods in general relativity and quantum field theories Paris 7–Paris Diderot University, 4–6 November 2009 | Paris, France
7/**09**	Univers Invisible, Conférence Grand Public UNESCO (United Nations Educational, Scientific and Cultural Organization), 06–10 July 2009 | Paris, France
6–7/**09**	Invisible Universe: Towards a new cosmological paradigm UNESCO (United Nations Educational, Scientific and Cultural Organization), 29 June – 3 July 2009 | Paris, France
5/**08**	Geometry, Topology, QFT and Cosmology Paris-Meudon Observatory, 28-29 May 2008 | Paris, France
6/**07**	Loops'07 International Conference on Quantum Gravity Instituto de Matemáticas, Universidad Nacional Autónoma de México, 25-30 June 2007 | Morelia, Mexico

Attended Seminars

9/**09** 9/**15**	Seminar of Geometry and Mathematical-Physics (Séminaire de Géométrie et Physique-Mathématique), IMJ (Institut de Mathématique de Jussieu) | Paris, France
10/**13** 11/**14**	Seminar of Philosophy and Mathematical-Physics Paris 7–Paris Diderot University, ERC Philosophy of Canonical Quantum Gravity | Paris, France