

Jan Vysoký

PERSONAL INFORMATION

Date of birth: 11 July 1987
Place of birth: Náchod, Czech Republic

CONTACT INFORMATION

mobile phone: +420 721135395
e-mail: jan@vysoky.cz
mailing address: Ostrčilovo náměstí 2, 12800 Praha 2, Czech Republic

RESEARCH INTERESTS

Geometrical methods in theoretical physics. Generalized & Poisson geometry.

CURRENT AFFILIATION

Postdoctoral Researcher
Institute of Mathematics of the Czech Academy of Sciences
Žitná 25, Prague 115 67, Czech Republic

EDUCATION

Czech Technical University in Prague, Czech Republic
Faculty of Nuclear Sciences and Physical Engineering
Jacobs University Bremen, Germany

Doctor of Philosophy (Ph.D.), co-directed CTU-JUB

June 2011 – August 2015

- Graduated with distinction in Bremen: 15 July 2015,
- Graduated in Prague: 10 August 2015,
- Advisors: Branislav Jurčo, FMP, Charles University in Prague, Peter Schupp, JUB.
- Thesis topic: Geometry of Membrane Sigma Models

Czech Technical University in Prague, Czech Republic
Faculty of Nuclear Sciences and Physical Engineering

Master of Science (Ing.)

September 2009 – June 2011

- Graduated with honours: 2011
- Advisor: Ladislav Hlavatý, FNSPE, CTU in Prague
- Thesis topic: Poisson structures on Lie groups ([download](#))

Bachelor of Science (Bc.)

September 2006 – September 2009

- Graduated with honours: 2009
- Advisor: Ladislav Hlavatý, FNSPE, CTU in Prague
- Thesis topic: Supersymmetry, Lie superalgebras, Manin supertriples ([download](#))

HONOURS AND AWARDS

Václav Votruba Prize **2015**,
for the best thesis in theoretical physics.

Josef Hlávka Prize **2015**.

Milan Odehnal Prize (organized by Czech Physical Society) **2014**,
Honorable mention for "Applications of geometrical methods in physics".

Contest of University Students in Maths Research (organized by Czech Mathematical Society) **2011**,
1.-2. place in category "Algebra, Topology and Geometry".

PUBLICATIONS

Jan Vysoký:
"Kaluza-Klein Reduction of Low-Energy Effective Actions: Geometrical Approach" ([eprint](#)),
Preprint only, to be published.

Branislav Jurčo, Jan Vysoký:
"Courant Algebroid Connections and String Effective Actions" ([eprint](#)),
Proceedings of Tohoku Forum for Creativity,
Special volume: Noncommutative Geometry and Physics IV.

Branislav Jurčo, Jan Vysoký:
“Heterotic reduction of Courant algebroid connections and Einstein–Hilbert actions” ([eprint](#)),
Nucl.Phys. B909 86-121 , April 2016.

Branislav Jurčo, Jan Vysoký:
“Leibniz algebroids, generalized Bismut connections and Einstein–Hilbert actions” ([eprint](#)),
Journal of Geometry and Physics 97, pp. 25-33, August 2015.

Branislav Jurčo, Peter Schupp, Jan Vysoký:
“Extended generalized geometry and a DBI-type effective action for branes ending on branes” ([eprint](#)),
Journal of High Energy Physics, August 2014, 2014:170.

Branislav Jurčo, Peter Schupp, Jan Vysoký:
“Nambu-Poisson Gauge Theory” ([eprint](#)),
Physics Letters B, 733C, May 2014, pp. 221-225.

Branislav Jurčo, Peter Schupp, Jan Vysoký:
“On the Generalized Geometry Origin of Noncommutative Gauge Theory” ([eprint](#)),
Journal of High Energy Physics, July 2013, 2013:126.

Branislav Jurčo, Peter Schupp, Jan Vysoký:
“p-Brane Actions and Higher Roytenberg Brackets” ([eprint](#)),
Journal of High Energy Physics, February 2013, 2013:42.

Jan Vysoký, Ladislav Hlavatý:
“Poisson-Lie Sigma Models on Drinfel’d double” ([eprint](#)),
Archivum Mathematicum, vol. 48 (2012), issue 5, pp. 423-447.

Ladislav Hlavatý, Vojtěch Štěpán and Jan Vysoký:
“Drinfel’d superdoubles and Poisson-Lie T-plurality in low dimensions”,
Journal of Mathematical Physics, 51(6): Art. No. 062304, June 2010.

PROFESSIONAL
EXPERIENCE

Max Planck Insitute for Mathematics, Bonn
Postdoctoral Fellow

July 2016 – December 2016

Mathematical Sciences Institute
Australian National University, Australia
Postdoctoral Fellow

September 2015 – December 2015

Jacobs University Bremen, Germany
Research Associate
*Member of research training group **Models of Gravity***

May 2013 – November 2013

May 2013 – August 2015

Czech Technical University in Prague, Czech Republic
Teaching Assistant

September 2009 – present

Undergraduate courses in mechanics, theoretical physics, linear algebra and waves & optics, graduate course in geometrical methods in physics.

TALKS GIVEN

The 37th Winter School on Geometry and Physics, Srní, Czech Republic:
Courant algebroids & non-Abelian Kaluza-Klein reduction

January 2017

MPIM Bonn Oberseminar, Bonn, Germany:
From the Levi-Civita connection to Levi-Civita connections: Effective actions

August 2016

The 36th Winter School on Geometry and Physics, Srní, Czech Republic:
Courant algebroid connections and Einstein-Hilbert actions

January 2016

Bayrischzell Workshop 2015: Quantization, geometry and mathematical physics, Bayrischzell, Germany: <i>Courant algebroid connections and Einstein-Hilbert type actions</i>	May 2015
RTG Networking Workshop, Bremen, Germany: <i>Connections and Gravity Actions via Generalized Geometry</i>	March 2015
Nordic String Meeting 2015, Gronningen, Netherlands: <i>Generalized geometry and effective actions for strings and branes</i>	February 2015
The 34rd Winter School on Geometry and Physics, Srní, Czech Republic: <i>Generalized geometry of Kaluza-Klein reduction</i>	January 2014
RTG Models of Gravity Colloquium, University of Oldenburg, Germany: <i>Generalized geometry & applications</i>	November 2013
Models of Gravity Workshop Autumn 2013: Astrophysics and Cosmology, Bremen, Germany: <i>Geometry of (membrane) sigma models</i>	October 2013
The 33rd Winter School on Geometry and Physics, Srní, Czech Republic: <i>Generalized geometry and string theory</i>	January 2013
Eduard Cech Centre meeting in Trest, Czech Republic: <i>Nambu sigma models and their algebraic structure</i>	October 2012
The 32nd Winter School on Geometry and Physics, Srní, Czech Republic: <i>Nambu-Poisson structures</i>	January 2012

LANGUAGES

- Czech – native speaker
- English – fluent
- Russian – intermediate
- French, German – beginner