Curriculum Vitae

Dr. Alexander Schenkel

Personal information

Surname: SCHENKEL
First name: Alexander
Gender: Male
Date of birth: August 21, 1983
Place of birth: Hardheim, Germany
Present citizenship: German
Marital status: Married

Professional address

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Research interests

- ▷ Quantum field theory on curved spacetimes / Category theoretical methods
- ▷ Noncommutative differential geometry
- ▷ Hopf algebras and deformation quantization
- ▷ Mathematical supersymmetry, supergeometry and supergravity
- ▷ Functional renormalization group equations

Scientific positions

since 04/2012	Temporary Lecturer ("Lehrbeauftragter"), Faculty of Sciences and Mathematics, University of Wuppertal
since 09/2011	Postdoctoral position (E13), Mathematics Department, University of Wuppertal, Working group of Prof. Dr. Hanno Gottschalk

University education

06/2008-10/2011	PhD student in theoretical physics, University of Würzburg Member of the Research Training Group GRK1147 "Theoretical Astrophysics and Particle Physics" PhD thesis: "*Noncommutative gravity and quantum field theory on noncommutative curved spacetimes*" Referees: Prof. Dr. Thorsten Ohl, Prof. Dr. Haye Hinrichsen, Prof. Dr. Peter Schupp Submitted: June 14, 2011; Disputation: October 24, 2011 (passed with distinction, *summa cum laude*)
08/2005-06/2008	Advanced study period in physics, University of Würzburg Diploma thesis: (Advisor: Prof. Dr. Thorsten Ohl) "*Pseudo-local Dirac observables in effective theories of quantum gravity*" Qualification: Diplom (passed with distinction)
10/2003-08/2005	Basic study period in physics, University of Würzburg Qualification: Vordiplom (passed with distinction)

Conference and workshop talks

11/2013	"Topological aspects of Abelian quantum gauge theories" at the *Workshop: Foundations and Constructive Aspects of QFT*, Göttingen
07/2013	"Quantized Abelian principal connections on Lorentzian manifolds" at the *Mini-Workshop: New Crossroads between Mathematics and Field Theory*, Mathematisches Forschungsinstitut Oberwolfach (MFO) *(invited)*
09/2012	"Quantum field theory on affine bundles" at the *Workshop: Algebraic Quantum Field Theory and Local Symmetries*, Hausdorff Research Institute for Mathematics (HIM) Bonn *(invited)*
06/2012	"Linear bosonic and fermionic quantum gauge theories on curved spacetimes" at the *Workshop: Foundations and Constructive Aspects of QFT*, Paderborn
06/2012	"Product module homomorphisms and connections in twist deformed NC geometry" at the *Workshop on Gauge Theory and Noncommutative Geometry*, Luxembourg *(invited)*
09/2011	"Twist deformations of module homomorphisms and connections" at the *Workshop on Noncommutative Field Theory and Gravity*, Corfu *(invited)*
09/2010	"Quantum Field Theory on NC Curved Spacetimes" at the *Workshop: Deformation Methods in Mathematics and Physics*, Mathematisches Forschungsinstitut Oberwolfach (MFO) *(invited)*
09/2010	"Quantum Field Theory on NC Curved Spacetimes" at the *Workshop on Quantum Field Theory: Developments and Perspectives'*, DESY Hamburg

09/2010 "Quantum Field Theory on NC Curved Spacetimes" at the *Workshop on Noncommutative Field Theory and Gravity*, Corfu

06/2010 "Algebraic approach to quantum field theory on a class of noncommutative curved spacetimes" at the *Workshop: Foundations and Constructive Aspects of QFT*, Münster

05/2010 "Field theory on curved NC spacetimes" at the *Workshop on Noncommutativity and Physics: Spacetime Quantum Geometry*, Bayrischzell *(invited)*

03/2010 "Algebraic approach to quantum field theory on a class of noncommutative curved spacetimes" at the *Meeting of the German Physical Society (DPG)*, Bonn

06/2009 "Symmetry Reduction and Exact Solutions in Twisted Noncommutative Gravity" at the *49. Cracow School of Theoretical Physics: Non-perturbative Gravity and Quantum Chromodynamics*, Zakopane

05/2009 "Noncommutative Symmetry Reduction: Backgrounds and Quantum Fields" at the *Workshop on Noncommutativity and physics: Quantum Geometries and Gravity*, Bayrischzell *(invited)*

05/2009 "Noncommutative Cosmological Models" at the *Workshop: 4. Kosmologietag*, Bielefeld

03/2009 "Symmetry Reduction in Twisted NC Gravity with Applications to Cosmology and Black Holes" at the *Meeting of the German Physical Society (DPG)*, Munich

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Seminar talks

12/2013 "The inhomogeneous Klein-Gordon field: A new standard model for LCQFT" at the Mathematical Physics Group, University of Pavia

10/2013 "Algebraic quantum field theory and gauge theory" at the Department of Mathematics, Charles University Prague

09/2013 "Topological aspects of Abelian gauge theories in algebraic quantum field theory" at the Mathematical Physics Group, University of York

04/2013 "Quantized Abelian principal connections on Lorentzian manifolds" at the Differential Geometry Group, University of Potsdam

02/2013 "Category theoretical description of matter and gauge QFTs" at the Center for Quantum Spacetime (CQUeST), Seoul

03/2012 "Parallel transport on modules and application to fuzzy gauge theory" at the Edinburgh Mathematical Physics Group

11/2011 "The Maxwell field on curved spacetimes: A projective module approach" at the Algebraic Quantum Field Theory Group, University of Hamburg

01/2011 "Quantum Field Theory on Noncommutative Curved Spacetimes" at the Center for Quantum Spacetime (CQUeST), Seoul

11/2010 "QFT on noncommutative curved spacetimes" at the Algebraic Quantum Field Theory Group, University of Hamburg

02/2010 "Algebraic approach to quantum field theory on a class of noncommutative curved spacetimes" at the Mathematical Physics Group, University of Vienna

01/2010 "Algebraic approach to quantum field theory on a class of noncommutative curved spacetimes" at the Mathematical Physics Group, University of Alessandria

Invited lectures

02/2013	NIMS Winter School for Quantum Gravity and Cosmology, Daejeon, South Korea (4 one-hour lectures on noncommutative geometry and gravity)
03/2012	Mini-Lecture (one hour) on projective modules and noncommutative gauge theory, Edinburgh Mathematical Physics Group

Research visits

12/2013	Claudio Dappiaggi, University of Pavia *(1 week)*
10/2013	Branislav Jurčo, Charles University Prague *(1 week)*
09/2013	Christopher J. Fewster, University of York *(1 week)*
12/2012	Paolo Aschieri, INFN Torino and University of Alessandria *(2 weeks)*
08/2012	Paolo Aschieri, INFN Torino and University of Alessandria *(1 week)*
03/2012	Christian Sämann, Heriot-Watt University, Edinburgh *(1 week)*
12/2011	Paolo Aschieri, INFN Torino and University of Alessandria *(1 week)*
12/2010	Paolo Aschieri, INFN Torino and University of Alessandria *(1 week)*
02/2010	Harold Steinacker and Harald Grosse, University of Vienna *(4 weeks)*
01/2010	Paolo Aschieri, INFN Torino and University of Alessandria *(2 weeks)*
08-09/2009	Tim Koslowski, Perimeter Institute for Theoretical Physics *(3 weeks)*
06/2009	Paolo Aschieri, INFN Torino and University of Alessandria *(2 weeks)*
02/2009	Peter Schupp, Jacobs University Bremen *(4 days)*

Visiting grants

09/2012	Research in Pairs (2 weeks with Thomas-Paul Hack), Mathematisches Forschungsinstitut Oberwolfach (MFO)
01/2010	Short Visit Grant (2 weeks with Paolo Aschieri at the University of Alessandria), ESF Activity "Quantum Geometry and Quantum Gravity"

Scholarships and awards

05/2012	"Stiftungspreis der Unterfränkischen Gedenkjahrstiftung für Wissenschaft" for my PhD thesis with distinction (*summa cum laude*)
12/2011	Willhelm-Conrad-Röntgen Award of the Faculty of Physics and Astronomy of the University of Würzburg for a PhD thesis with distinction (*summa cum laude*)
06/2008-05/2011	Full scholarship within the Research Training Group GRK1147 "Theoretical Astrophysics and Particle Physics"
12/2008	Willhelm-Conrad-Röntgen Award of the Faculty of Physics and Astronomy of the University of Würzburg for one of the years best Diploma theses

Teaching

At the University of Wuppertal:

10/2013-02/2014	Geometric aspects of supergravity and string theory (2 h/week master's seminar)
10/2013-02/2014	Stochastics and probability theory (organization of the tutorials)
04/2013-07/2013	Applied statistics (organization of the tutorials)
04/2013-07/2013	$\mathbb{Z}_2$-graded algebra and supergeometry (2 h/week master's seminar)
10/2012-02/2013	Stochastics and probability theory (organization of the tutorials)
04/2012-07/2012	Partial differential equations (4 h/week lecture for master students)
10/2011-02/2012	Stochastics and probability theory (organization of the tutorials)

Teaching Assistance at the University of Würzburg:

10/2010-02/2011	Theoretical Mechanics (special course for mathematical physics students)
10/2009-12/2009	Theoretical Electrodynamics
10/2008-02/2009	Statistical Physics
04/2008-07/2008	Quantum Mechanics
10/2007-02/2008	Theoretical Electrodynamics

Additional teaching:

2008-2011	Organization of reading groups and journal clubs on topics in theoretical physics, e.g. on local quantum physics and on general relativity, University of Würzburg

Workshop organization

05/2013	32nd Workshop "Foundations and Constructive Aspects of QFT", Wuppertal

Public outreach

2008-2011	Co-organization of open days for pupils, teachers and the science interested public at the Department of Physics, University of Würzburg

Additional activities

since 11/2013	Referee for Communications in Mathematical Physics
since 05/2013	Referee for Classical and Quantum Gravity
since 03/2013	Grant proposal reviewer for the National Science Centre (NCN), Poland
since 12/2012	Referee for Reviews in Mathematical Physics

since 11/2011	Referee for Central European Journal of Physics
since 06/2011	Referee for General Relativity and Gravitation
since 09/2010	Referee for Physical Review D, American Physical Society (APS)
since 09/2009	Reviewer for Mathematical Reviews, American Mathematical Society (AMS)

Letters of recommendation

Prof. Dr. Christopher J. Fewster
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