1. Curriculum Vitae

Dr. Simon Lentner.
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Personal Data.

Date of birth	8. June 1985
Place of birth	Rosenheim, Germany
Parents	Wolfgang Lentner, Maria Noichl
Children	Jonathan (4)
Languages	German, English

School Education.

1992-1996	Astrid Lindgren elementary school, Rosenheim
1996-2004	Ignaz-Günther-Gymnasium, Rosenheim (musical branch)
	Participation in competitions such as the Mathematic Olympics (DEMO 2001)
2001-2002	Exchange student, St. Cloud High school, Florida, USA
2002-2004	University attendance during high school
	Course credits (Scheine) in algebra I+II and two algebra seminars
25.6.2004	High school certificate: Abitur

University Education.

2004-2008	Study of Mathematics (Diploma) at LMU Munich
	Subsidiary subjects: Economics (VWL) and Theoretical Physics
	Diploma thesis advisor: Prof. Schottenloher
	Topic: "Vertex Algebras Constructed from Hopf Algebra Structures"
25.2.2008	Degree Dipl. Math.
2008-2012	Doctorate in Mathematics at LMU Munich
	Dissertation advisor: Prof. Schottenloher
	Topic: "Orbifoldizing Hopf- and Nichols-Algebras"
21.12.2012	Degree Dr. (magna cum laude)

Work/Teaching Experience.

2003-2008	Student assistant in teaching at LMU Munich
2004-2007	Work for two Rosenheim youth centers (2 days/week)
	IT-administration, tutoring, support for employment seeking.
2008-2011	Doctorate Scholarship from "Studienstiftung des deutschen Volkes"
2010	Assistant at the LMU Munich.
	First own lectures and seminars (see Teaching Experience).
2011-2012	Publicly funded spin-off project "PerfectPrintPattern" (Prof. Schottenloher)
	Topic: Combinatorial optimization in industrial processes.
	Scholarship "EXIST" granted by the German government (BMWi)
2012	Cofounder of the PerfectPattern GmbH
2012-2013	Scientific assistant at LMU Munich (Prof. Merkl)
	as part of the follow-up funding granted by the Bavarian government (StMWFK)
2013	3 patents filed concerning combinatorial optimization of cutting processes.
2013-2015	Postdoctoral assistant at University Hamburg (Prof. Schweigert)
	* Research stays in Marburg (Heckenberger),
	Moscow (Semikhatov), Buenos Aires (Vendramin)
	* First referee experiences (CCM, SIGMA, AMSUH)
	* Associate member of the DFG Research Training Group 1670
	"Mathematics inspired by string theory and quantum field theory"

Voluntary Activities.

2003-2008	Head of the Jusos Rosenheim (youth organization of the SPD party)
2005-2008	Deputy chairman for Jusos Upper Bavaria
	Staff- and budget responsibilities, public relations and conference organization
	Moderation of inner-party political processes, workgroup "European Union"
2000, 2003, 2008	Organization of a winter school for talented high school students.
2008-2013	Participant in the LMU-Project "MobilesMatheLabor"
	Projects with school classes and Math Mountain Camps

Private Interests.

- Programming (Visual Basic, Java)
- Alpine Hiking und Climbing
- Music (Clarinet, Saxophone)

2. Publications

S. Lentner, D. Nett: New R-matrices for small quantum groups, accepted for publication in Algebra and Representation Theory, Preprint (2014) arXiv:1409.5824.

A. Barvels, S. Lentner, C. Schweigert: Partially Dualized Hopf Algebras Have Equivalent Yetter-Drinfel'd Modules, Journal of Algebra 430 (2015) p. 303-342. arXiv:1402.2214.

S. Lentner: A Frobenius homomorphism for Lusztig's quantum groups over arbitrary roots of unity, accepted for publication in Communications in Contemporary Mathematics, Preprint (2014) arXiv:1406.0865.

S. Lentner: Root Systems In Finite Symplectic Vector Space, accepted for publication in Communications in Algebra, 43 (2015) p. 1-25. arXiv:1307.7151

S. Lentner: New Large-Rank Nichols Algebras Over Nonabelian Groups With Commutator Subgroup $\mathbb{Z}_2$, Journal of Algebra 419C (2014) p. 1-33. arXiv:1306.5684

Preprints. All preprints can be retrieved at http://arxiv.org/a/lentner_s_1

E. Kraus, S. Lentner: Nash Equilibria And Partition Functions Of Games With Many Dependent Players, Preprint (2015). arXiv:1504.03965.

M. Cuntz, S. Lentner: A simplicial complex of Nichols algebras, Preprint (2015). arXiv:1503.08117.

S. Lentner: Quantum affine algebras at small root of unity, Preprint (2014) arXiv:1411.2959.

S. Lentner, D. Nett: A theorem on roots of unity and a combinatorial principle, Preprint (2014) arXiv:1409.5822.

S. Lentner, A. Lochmann: Factorization Of Graded Traces On Nichols Algebras, Preprint (2014) arXiv:1403.4287.

Submitted patents in 2013.

- 10 2013 101 604.9 Combinatorial optimization of printing layouts
- 10 2013 103 167.6 Combinatorial optimization of wood cutting
  (joint with Prof. Schottenloher, Dr. Paleani, R. Meißner, L. Lentner).
- 10 2013 103 169.2 Combinatorial optimization of cutting processes
  (joint with Prof. Schottenloher, Dr. Paleani, R. Meißner, L. Lentner).

Other scientific works.

- Different forms of quantum groups and the Frobenius homomorphism, Conference Proceedings, Oberwolfach Report 10 (2015).
- Folding of Nichols algebras and quantum groups, Conference Proceedings, Oberwolfach Report 20 (2014).
- Orbifoldizing Hopf- And Nichols Algebras, Dissertation, LMU Munich (2012).
- Nichols Algebras Over Nilpotent Groups, Conference Proceedings, Oberwolfach Report 43 (2010).
- Vertex Algebras Constructed From Hopf Algebra Structures, Diploma Thesis, LMU Munich (2007).

3. Conference Talks

- Quantum groups a small root of unity,
  6. March 2015, Quantum 2015, Córdoba, Argentinia.
- Different types of Quantum groups and the Frobenius homomorphism,
  20. April 2015, Oberwolfach miniworkshop "Coideal Subalgebras of Quantum groups".
- Construction of large rank Nichols algebras,
  25. August 2014, Summer school "Conformal Field Theory and Nichols Algebras", Rauischholzhausen/Marburg.
- Folding Nichols algebras and quantum groups,
  17. April 2014, Oberwolfach miniworkshop "Infinite-dimensional Hopf algebras".
- Partially dualized Hopf algebras have equivalent Yetter-Drinfeld modules,
  25. March 2014, Annual conference of the DFG priority program SPP 1388 "Representation Theory", Soltau.
- Nichols Algebras Over Nilpotent Groups,
  30. September 2010, Oberwolfach Workshop "Deformations in Mathematics and Physics".

Other external talks.

- BiGalois objects and the Brauer Picard group, 6. May 2015, Colloquium University of Vienna
- Lusztig's algebra of divided powers and logarithmic conformal field theory, 13. March 2015, Universidad de Buenos Aires, Argentinia.
- Automorphisms of Root Systems and Quantum groups, 30. June 2014, Oberseminar Algebra and Algebraic Combinatorics, University Hannover.
- Partial Dualization Of Hopf Algebras And Reflection Of Quantum Groups, 26. June 2014, Colloquium University Göttingen.
- Partial Dualization Of Hopf Algebras, 21. November 2013.
  Seminar Combinatorics und Algebra, Philipps-University Marburg.
- Diagram folding and Nichols algebras over nonabelian groups, 29. May 2013.
  Seminar Combinatorics and Algebra, Philipps-University Marburg.
- On new large rank Nichols algebras and pointed Hopf algebras with nonabelian coradical, 16. May 2013. "Seminar Bremen - Hamburg - Kiel", Hamburg.
- Innovative algorithms for combinatorial optimization in industry processes, 2. May 2012. University of applied science, Munich.
- Nichols Algebras Over Nilpotent Groups, 31. May 2011.
  Research Seminar Algebra and Number Theory, University Hamburg.

4. Teaching Experience

Independently taught classes.

SS 2015	Seminar: "Root systems and Lie algebras"
WS 2014/15	Seminar: "Representation theory of finite groups"
WS 2014/15	Preparation Course: "Master Mathematical Physics"
WS 2013/14	Preparation Course: "Master Mathematical Physics"
SS 2011	Lecture: "Finite groups and their Nichols Algebras"
WS 2010/11	Seminar: "Game Theory with Many Players and Statistical Physics"
SS 2010	Lecture: "Hopf Algebras Generating Fusion Rings
	And Topological Invariants"

Coordination of tutorial classes and seminars as an assistant.

WS 2014/15	"Advanced algebra II: Homological algebra and representation theory"
SS 2014	"Mathematics 4 for Physicists"
WS 2013/14	"Mathematics 3 for Physicists and Geoscientists"
SS 2013	"Mathematics 2 for Physicists and Geoscientists"
SS 2013	"Representation Theory of groups and Lie algebras"
SS 2012/13	"Thermodynamical Quantum Algorithms"
SS 2011/12	"Topological Field Theory"
	And Topological Invariants"
SS 2010	"Quantum Field Theory in Curved Spacetime"

Participation in supervision of student theses.
(mostly as associated member of the DFG Research Training Group 1670):

- Jan Priel (PhD thesis, Prof. Schweigert), ongoing.
  Determine the automorphism groups of nonabelian Dijkgraaf-Witten theories.
- Daniel Nett (PhD thesis, Prof. Schweigert), finished 16.3.2015.
  "New R-matrices for small quantum groups".
- Alexander Barvels (PhD thesis, Prof. Schweigert), finished 2.7.2014.
  "Two constructions in monoidal categories: Equivariantly extended Drinfel'd Centers and Partially dualized Hopf Algebras".
- Lisa Kraus (Diploma thesis, Prof. Schottenloher), finished 7.12.2011.
  "Game-Theory of the Stock Market and Statistical Physics".
- Karolina Vocke (Diploma thesis, Prof. Schottenloher), finished 24.12.2010.
  "Anyonmodels from Hopf algebras".