

CURRICULUM VITAE as of January 31, 2012

Name: Christoph Schweigert

Address:

Department Mathematik
Bereich Algebra und Zahlentheorie
Universität Hamburg
Bundesstrasse 55
D-20146 Hamburg

Office phone: +49-(0)40-428-38-5170
Secr. phone: +49-(0)40-428-38-5171
e-mail: Christoph.Schweigert@uni-hamburg.de
<http://www.math.uni-hamburg.de/home/schweigert/>

Nationality: German

Date and Place of Birth: 07.10.1966 in Heidelberg, Germany

Positions:

2008 – Full Professor of mathematics (W3), Universität Hamburg, Germany
2007 Offer full professorship for Geometry, University of Göttingen (declined)
2003 – 2008 Full Professor of mathematics (C4), Universität Hamburg, Germany
2002 – 2003 Professor of physics (C3), RWTH Aachen, Germany
2002 Offer tenured associate professorship, mathematics department of UC Davis (declined)
1999 – 2002 Lecturer at the Université Pierre et Marie Curie, Paris VI
1999 – 1999 Senior research associate at the Institute for Theoretical Physics,
ETH Zürich, Switzerland
1997 – 1998 Fellow at the Theory Division of CERN, Geneva, Switzerland
1995 – 1996 Postdoctoral research fellow at the Institut des Hautes Études
Scientifiques (IHES), Bures-sur-Yvette, France
1986 – 1987 Military Service

Education:

2000 *University of Paris VI, France,*
“Habilitation à Diriger des Recherches”
1995 *University of Amsterdam, Amsterdam, The Netherlands,*
Ph.D. in mathematics, Thesis advisors: R.H. Dijkgraaf and J. Fuchs
Thesis: “Galois and simple current symmetries in conformal field theory”
1992 – 1995 Ph.D. Research at NIKHEF, Amsterdam
1992 *University of Heidelberg, Heidelberg, Germany,*
Diplom (M.Sc.) in Physics, Thesis advisor: M. G. Schmidt
Thesis (in German): “Zur Kazama-Suzuki Konstruktion
superkonformer Quantenfeldtheorien”
1987 – 1992 *University of Heidelberg, Heidelberg, Germany*
Studies in Physics and Mathematics
1977 – 1986 Kurfürst-Friedrich-Gymnasium Heidelberg, Germany (High School)
1973 – 1977 Grundschule Heidelberg-Ziegelhausen, Germany (Primary School)

Research Appointments:

April – June 2005: ETH Zürich
February 2005: Université Pierre et Marie Curie, Paris 6
September 2003: Université Pierre et Marie Curie, Paris 6
February 2002: Max-Planck-Institute for gravitational physics, Potsdam, Germany
April 2001 – May 2001: Institute for Mathematics, University of Cologne, Germany
April 2000: Participating Guest at LBNL Berkeley, CA, USA
February 1999 – April 1999: Participating Guest at UC Berkeley, CA, USA
October 1996 – December 1996: Participating Guest at LBNL Berkeley, CA, USA
September 1995: Visiting Scientist at CERN, Geneva, Switzerland

Special Activities:

- September 2013 Coorganizer of the workshop *Matrix Factorizations in Algebra, Geometry, and Physics* Oberwolfach, September 2013
- August 2011 Coorganizer of the workshop *New perspectives in topological field theories* Hamburg, August 2012
- October 2011 Coorganizer of the Workshop *Representation Theoretical and Categorical Structures in Quantum Geometry and Conformal Field Theory*, Erlangen
- Juni 2011 Coorganizer of the Workshop “*Conformal field theories and tensor categories*” at the Beijing International Center for Mathematical Research (BICMR)
- Juni 2011 Colloquium on the occasion of Ernst Witt’s 100th birthday, Hamburg
- Mai 2011 Workshop “*Higher Structures in Topology and Geometry V*”, Hamburg
- June 2010 Coorganizer of the workshop “*Geometry, quantum fields and strings*” at MFO Oberwolfach
- October 2009 Lecturer at the fall school on topological field theory at the University of Almeria, Spain
- July 2008 Coorganizer of the conference “*Noncommutative Structures in Mathematics and Physics*”, satellite conference to the 5th ECM in Brussels
- July 2008 Coorganizer of the Minisymposium “*Representation Theoretic Methods and Quantization*” at the 5th ECM in Amsterdam
- April 2007 Organizer of the “Arbeitsgemeinschaft” at Oberwolfach on “*Conformal Field Theory*”
- November 2006 Coorganizer of the Colloquium “*Kähler Geometry and Mathematical Physics*” in Hamburg
- October 2006 Coorganizer of the opening colloquium of the Center of Mathematical Physics, Hamburg
- August 2005 Coorganizer of the Oberwolfach-Miniworkshop “*Gerbes, twisted K-theory and conformal field theory*”
- April 2005 Coorganizer of the Workshop: “*Lessons from low dimensions - the many aspects of conformal field theory*” at the University of Bonn
- February 2005 Coorganizer of the Workshop: “*Geometric aspects of conformal field theory*”
- Spring 2004 Coorganizer of the programm “*Tensor categories in mathematics and physics*” at the Erwin-Schrödinger-Institut in Vienna
- September 2003 Coorganizer of the colloquium in memoriam Peter Slodowy
- September 2000 Organizer of the workshop “*Modularization of premodular categories*” on the Ile Bailleron, France
- September 1998 Organizer of the workshop “*Conformal field theory of D-branes*” at DESY, Hamburg, Germany.
- March 1997 Organizer of the workshop “*Verlinde formula and conformal blocks*” at the ‘Mathematisches Forschungsinstitut Oberwolfach’, Germany

Editorship:

- 2009 – “Letters in mathematical physics”
- 2006 – “Journal of mathematical physics”
- 2006 – “Communications in Contemporary Mathematics”
- 2005 – Series “Algebra and applications” (Springer)
- 2003 – Abhandlungen aus dem mathematischen Seminar der Universität Hamburg

Fellowships and Prices:

2007	Gay-Lussac research price of the French ministry of higher education
1992 - 1995	German National Merit Foundation (Studienstiftung des deutschen Volkes): Grant for PhD research
1987 - 1992	German National Merit Foundation: Fellow
January 1987	National Laureate of the German Federal Competition in Mathematics (Bundeswettbewerb Mathematik)
September 1985	<i>Prix Strasbourg</i> of the Foundation FVS, Hamburg

Outreach:

24.11.2011	Host at the Network meeting of the Alexander von Humboldt Foundation
28.11.2008	Public talk at the Science Forum Hamburg at the National Year of Mathematics <i>“Zwischen reiner Erkenntnis und Anwendungspraxis: ist die Mathematik eine Geisteswissenschaft?”</i>
07.08.2008	Mitwirkung in der Radiosendung von Peter Zaun im Deutschlandradio Kultur <i>“Alles ist Super – Mit Supersymmetrie, Superstrings und Supermathematik in neue Welten”</i>
23.02.2008	Interview im Abendjournal Spezial NDR 90,3 <i>“Verborgene Zahlen - wie Mathematik unser Leben beherrscht”</i>
16-18.02.2001	Leitung einer Arbeitsgruppe beim Stipendiaten-Treffen der Studienstiftung in Paris <i>“Deutsch-Französische Zukunftsvisionen: Mathematik und Naturwissenschaften in Frankreich und Deutschland – zwischen Internationalisierung und nationalen Traditionen”</i>

Teaching experience

1992 – 1993	Teaching assistant at the Institute for Theoretical Physics of the University of Heidelberg
First term 1997/98	“ <i>Conformal Field Theory</i> ” LMU Munich
First term 1998/99	“ <i>Boundary conditions and D-branes</i> ” ETH Zurich
Second term 1998/99	“ <i>Superstring Theory</i> ” ETH Zurich
First term 1999/00	“ <i>Advanced quantum mechanics</i> ” École Doctorale de physique de la région parisienne “ <i>Physics for mathematicians I</i> ” University Pierre et Marie Curie, Paris VI
Second term 1999/00	“ <i>Physics for mathematicians II</i> ” University Pierre et Marie Curie, Paris VI
First term 2000/01	“ <i>Advanced quantum mechanics</i> ” “ <i>Conformal Field theory for superstrings</i> ” École Doctorale de physique de la région parisienne “ <i>Physics for medical students I</i> ” “ <i>Physics for mathematicians I</i> ” University Pierre et Marie Curie, Paris VI
Academic year 2001/02	“ <i>Advanced quantum mechanics</i> ” École Doctorale de physique de la région parisienne “ <i>Physics for medical students I</i> ” University Pierre et Marie Curie, Paris VI
First term 2002/03	Lecture “ <i>Symmetries in quantum physics</i> ” RWTH Aachen, including tutorials
Second term 2003	Lecture “ <i>Algebra 1</i> ”, including tutorials Seminar “ <i>Quantum physics and geometry</i> ” University of Hamburg
First term 2003/04	Lecture “ <i>Algebra 2</i> ”, including tutorials Lecture “ <i>Lie Algebras</i> ” Seminar “ <i>Quantum physics and geometry</i> ” University of Hamburg
Second term 2004	Lecture “ <i>Quantum groups and tensor categories</i> ”, Seminar “ <i>Homological Algebra</i> ” Seminar “ <i>Quantum physics and geometry</i> ” University of Hamburg
First term 2004/05	Lecture “ <i>Algebraic number theory</i> ”, including tutorials Seminar “ <i>Reflection groups</i> ” Seminar “ <i>Quantum physics and geometry</i> ” University of Hamburg
Second term 2005	Sabbatical

- First term 2005/06 Lecture “*Linear Algebra I*”, including tutorials
Seminar “*Representation theory*”
Seminar for teacher students
Seminar “*Quantum physics and geometry*”
University of Hamburg
- Second term 2006 Lecture “*Linear Algebra II*” including tutorials
Seminar “*Algebraic Geometry*”
Seminar “*Quantum physics and geometry*”
- First term 2006/07 MAPLE for mathematicians
Proseminar “*Linear Algebra*”
Seminar “*Lie Algebras*”
Seminar for teacher students
Seminar “*Quantum physics and geometry*”
- Second term 2007 Lecture “*Mathematical structures in physics*”
Seminar “*Algebraic structures in quantum field theory*”
Seminar “*Quantum physics and geometry*”
- First term 2007/08 Lecture “*Linear Algebra I*”, including tutorials
MAPLE for mathematicians
Seminar “*Representations of finite groups*”
Seminar for teacher students
Seminar “*Quantum physics and geometry*”
- Second term 2008 Lecture “*Linear Algebra II*” including tutorials
Colloquium in Pure Mathematics
Seminar “*Quantum physics and geometry*”
University of Hamburg
- First term 2008/09 Lecture “*Algebra II*”, including tutorials
MAPLE for mathematicians
Seminar “*Quantum physics and geometry*”
Colloquium in Pure Mathematics
- Second term 2009 Sabbatical
- First term 2009/10 Lecture “*Complex calculus I*”, including tutorials
Lecture “*Mathematical structures in physics*”, including tutorials
Seminar “*Quantum physics and geometry*”
- Second term 2010 Sabbatical
- First term 2010/11 Lecture “*Algebra II*”: Representation theory and homological algebra, including tutorials
Seminar “*Associative Algebras*”
Research seminar “*Mathematical physics*”
Seminar “*Quantum physics and geometry*”
- Second term 2011 Lecture “*Complex calculus II*”: Modular forms and Riemann surfaces, including tutorials
Lecture *Homological Algebra and applications*
Research seminar “*Mathematical physics*”
Seminar “*Quantum physics and geometry*”
- First term 2011/12 Lecture “*Mathematical structures in physics*”, including tutorials
Seminar “*Function fields and Codes*”
Seminar “*Quantum physics and geometry*”
- Second term 2012 Sabbatical

Supervision:

Habilitations:

Ingo Runkel (Universität Hamburg, 2005)

Urs Schreiber (Universität Hamburg, 2011)

PhD:

Till Barmeier (Universität Hamburg, 2010)

Pedro Maria da Costa Santos Bordalo (Université Pierre et Marie Curie, Paris VI, 2004)

Thomas Nikolaus (University of Hamburg, 2011)

Efrossini Tsouchnika (University of Hamburg, 2008)

Konrad Waldorf (University of Hamburg, 2007)

Master theses:

Sjuvon Chung (University of Hamburg, Master in Mathematics)

Undergraduate work (Diplomarbeiten):

Till Barmeier (University of Hamburg, Mathematics),

Alexander Barvels Florian Conrady (University of Heidelberg),

Katarina Kring (University of Hamburg, Mathematics),

Alexandra Kruppa (RWTH Aachen),

Shadi Lemanczyk (University of Hamburg),

Jennifer Maier (University of Hamburg),

Thomas Nikolaus (University of Hamburg),

Jakob Salfeld-Nebgen (ETH Zurich)

Linda Sass (University of Hamburg)

Maike Tormählen (University of Hamburg)

Rainer Tobaben (University of Hamburg)

Konrad Waldorf (RWTH Aachen, Physics),

Konrad Waldorf (University of Hamburg, Mathematics)

Niko Wilbert (RWTH Aachen, Physics)

Bachelor Theses:

Alexander Block (University of Hamburg, Mathematics, joint with Klaus Fredenhagen, Physics)

Xin Chen (University of Hamburg, Mathematics)

Sebastian Fleischer (University of Hamburg, Mathematics)

Simon Krause-Solberg (University of Hamburg, Mathematics)

Robert Laugwitz (University of Hamburg, Mathematics)

Johannes Lederich (University of Hamburg, Mathematics)

Nils Matthes (University of Hamburg, Mathematics)

Yannick Mogge (University of Hamburg, Mathematics)

Paul Neumann (University of Hamburg, Mathematics)

Viola Pfeiler (University of Hamburg, Mathematics)

Malin Schemschat (University of Hamburg, Mathematics)

Svenja Smarsly (University of Hamburg, Mathematics)

Cora Welsch (University of Hamburg, Mathematics)

Jara Wroblewski (University of Hamburg, Mathematics)

Pamela Zilliken (University of Hamburg, Mathematics)

Higher Education:

Charlotte Peikert

Anke Tiedemann

Bachelor theses in progress:

Heidi Ursula Wallon Pizarro, Leonard Schmiester

Master theses in progress:

Kemal Tezgin

PhD research in progress:

Alexander Barvels, Lukas Buhné, Jennifer Maier

Joint supervision:

Kasper Peeters

(Undergraduate work, NIKHEF Amsterdam, with Dr. J.W. van Holten)

Lothar Birke, Bill Pedrini und Johannes Walcher

(PhD research, ETH Zurich, with Prof. J. Fröhlich)

Grants:

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| 1997 | Mathematisches Forschungsinstitut Oberwolfach:
Workshop in the programme “research in pairs” |
| 1998 | Grant of Volkswagenstiftung for workshop: DM 22 000 |
| 2000 | Grant of CNRS for workshop: 10 000 FF
(complemented by a grant by the Université de Nantes and the Université de Bretagne-Sud) |
| 2002 | Grant of the Ministère d’Education Nationale for the
PhD-research of Pedro Bordalo: 4500 €. |
| 10/00-9/02 | Marie Curie Fellowship for Ingo Runkel |
| 2004 | Erwin-Schrödinger-Institut for mathematical physics:
45.000 € for the programme “Tensor Categories in Mathematics and
Physics” in spring 2004 |
| 10/02-9/04 | Marie Curie fellowship for Giuseppe D’Appollonio |
| 10/04-09/06 | DFG Main Focus Program String theory: two postdoc years and travel money |
| 01/05 – | German-Israeli-Foundation, with Weizman Institute, Rehovot
three postdoc years, one year PhD student |
| 02/05 – 05/05 | e-learning consortium Hamburg 5000 €. |
| 2005 | Fellowship of the Rudolf and Erika Koch Foundation for a PhD student |
| 05-07 | Exchange project with University of Zagreb (Croatia), DAAD |
| 2005-06 | Host of a Humboldt fellow and Humboldt price winner |
| 2006-2010 | Project leader in the DFG Collaborative reserach center “Particles, Strings
and the early Universe: the structure of matter and space-time”
1,5 postdoc positions |
| 2010-2014 | Project leader in the DFG Collaborative reserach center “Particles, Strings
and the early Universe: the structure of matter and space-time”
1 postdoc position |
| 2008-2011 | Acting host of the Emmy-Noether group “Conceptual questions of quantum gravity”
(Dr. Catherine Meusburger, with 1 postdoc and 2 PhD students) |
| 2008-2015 | Member of the board of the German research priority area representation theory
(DFG-Schwerpunktprogramm 1388 Darstellungstheorie) 1 PhD student |
| 2010 | e-learning consortium Hamburg: 4500 €. |
| 2011 | Grant for workshops by European Science Foundation: 5000€ |
| 2011 - | Deputy Spokesman of the GrK 1670 “ <i>Mathematics inspired by
string theory and quantum field theory</i> ”, 1 PhD position, 1 Postdoc |
| 2011 | Grant for workshops by European Science Foundation: 7000€ |

Invited seminars:

Austria	TU Wien, Schrödinger Institut
Canada	Edmonton
Denmark	Copenhagen
France	Ecole Polytechnique, Ecole Normale Supérieure, IHES, Institut Henri Poincaré, ENS Lyon, Lyon I, Nantes, Orsay, CEA Saclay
Germany	Aachen, Augsburg, HU Berlin, Bochum, Bonn, MPI Bonn, IU Bremen, Cologne, Darmstadt, DESY, Erlangen, Frankfurt, Freiburg, Göttingen, Hamburg, Hanover, Heidelberg, Jena, Kaiserslautern, Mainz, Marburg, LMU Munich, TU Munich, Münster, Paderborn, Potsdam, MPI Potsdam, Regensburg, Tübingen, Wuppertal, Würzburg
Great Britain	Cardiff, Edinburgh, Imperial College London, Oxford
Hungary	Eötvös Lorand University, Budapest
Ireland	DIAS Dublin, Trinity College Dublin
Italy	Perugia, Rome II, Torino
Netherlands	Universiteit van Amsterdam, NIKHEF, RU Leiden, Utrecht
Sweden	Gothenborg, Karlstad, KTH Stockholm
Switzerland	CERN, ETH Höggerberg, ETH Zentrum, Fribourg
USA	Brandeis, UC Berkeley, UC Davis, USC Los Angeles, MIT, Princeton, UC Riverside, Rutgers, UC Santa Cruz, Simons Center, SUNY Stony Brook

Invited talks on conferences:

Integrable lattice models and quantum field theories, Wuppertal, February 2012.

DMV Annual Meeting, Cologne, September 2011

Memorial Conference for Maximilian Kreuzer, Vienna, June 2011

Simons workshop on Bethe ansatz and branes, Stony Brook, March 2011

25th Nordic Network Meeting on “Strings, Fields and Branes, KTH Stockholm, March 2010

Algebraic and topological aspects of D-branes, Würzburg, December 2009

Darstellungstheoretage, Jena, November 2009

Lie algebras, vertex algebras and automorphic forms, Edinburgh, September 2009

Seminar Sophus Lie, Göttingen, July 2009

Workshop “Strings, fields and topology”, Oberwolfach, June 2009

5th European Congress of mathematics, Amsterdam, July 2008

Colloquium in honour of Michael G. Schmidt, Heidelberg, September 2008

Conference in Mathematical Physics on the Occasion of Jürg Fröhlich’s 61st Birthday,
Zurich, July 2007

Joint Meeting UMI-DMV, Perugia, June 2007

Future trends in mathematical physics, Hanover, October 2006
International congress of mathematicians, Madrid, August 2006
18th Workshop on “Foundations and Constructive Aspects of QFT”, Hamburg, May 2006

Lie algebras, vertex operator algebras and their applications, NC state university,
Raleigh, NC, May 2005.

Non-commutative geometry and representation theory in mathematical physics,
Karlstad, Schweden, July 2004
Applications of K-theory to theoretical physics, Institut Poincaré, Paris, March 2004

First RTGF Meeting (Red Temática de Geometría y Física), Madrid, November 2003
36th International Symposium Ahrenshoop, Berlin, August 2003
AMS Spring Meeting, Bloomington, IN, April 2003

35th International Symposium Ahrenshoop, Berlin, August 2002
“TH-2202”, International Conference on Theoretical Physics Paris, UNESCO, 22-27 July 2002
XXIV International Colloquium on Group Theoretical Methods in Physics, Paris, July 2002
EuroConference “*Vector Bundles on Algebraic Curves*” VBAC 2002 Luminy, July 2002
GDR “*Journées Lyonnaises*”, Lyon, June 2002
Workshop on “*String Theory and Complex Geometry*”. Bad Honnef, Germany, April 2002
6th Informal U.K. 1 day meeting on 2-dimensional integrable models, and conformal field theory.
Oxford, April 2002

66. Annual Meeting of the German Physical Society, Leipzig , March 2002

RTN Workshop “*Conformal symmetry and strings*”, Anttila, Sweden, September 2001
NATO Workshop “*Statistical field theories*”, Como, Italy, June 2001

“Géométrie algébrique complexe”, conference at CIRM, Luminy, November 2000
TMR conference “*Non-perturbative quantum effects 2000*”, Paris, September 2000
24th Johns Hopkins Workshop “*Nonperturbative QFT methods and their applications*”,
Budapest, August 2000

XIII International Congress on Mathematical Physics, London, July 2000
3rd European Congress of Mathematics, Barcelona, July 2000
9th Marcel Grossmann Meeting, Rome July 2000
“*Algebra 2000*”, Pacific Institute for the Mathematical Sciences, Edmonton, Canada, June 2000
GDR “*Structures non perturbatives en théorie des champs et des cordes*, ENS Lyon, May 2000

“*Non-Commutative Gauge Theory*”, Lorentz Center, Leiden, Netherlands, November 1999
“*Mesoscopic systems*”, Ascona, Switzerland, July 1999
“*Geometry and quantization of symplectic manifolds and quantum integrable systems*”
Ascona, Switzerland, July 1999
“*D-branes, vector bundles and bound states*”, IHES, Bures-sur-Yvette, June 1999

“*Conformal field theory of D-branes*”, DESY, September 1998
31st International Symposium Ahrenshoop, Buckow, September 1997

UC Lie Algebra Workshop, Santa Cruz, California, December 1996
XXVIII Summer Institute on “*String Theory and Extended Objects*,” ENS Paris, August 1996
XXI International Colloquium on Group Theoretical Methods in Physics, Goslar, July 1996

XIth International Congress of Mathematical Physics, Paris, July 1994
Symposium on Mathematical Physics, Enschede, Netherlands June 1994
Jahrestagung der Deutschen Physikalischen Gesellschaft, Hamburg, March 1994
3rd International Conference on Mathematical Physics, String Theory and Quantum Gravity,
Alushta, Ukraine, May 1993.

Workshops at the “Mathematisches Forschungsinstitut Oberwolfach”:

“*Deformation Methods in Mathematics and Physics* ” September 2010

“*Geometry, quantum fields and strings*” June 2010

“*Strings, fields and topology*”, June 2009

“*Infinite-dimensional Lie theory*”, December 2006

“*Gerbes, twisted K-theory and conformal field theory*”, August 2005

“*Mathematical aspects of string theory*”, April 1999

“*Generalized Kac-Moody algebras*”, July 1998

“*Verlinde formulae and conformal blocks*”, March 1997

Workshops at the Erwin-Schrödinger-Institut, Vienna:

“*K-Theory and Quantum Fields*”, June 2012

“*Quantum Field Theory on Curved Space-times and Curved Target Spaces*”, March 2010

“*Operator Algebras and Conformal Quantum Field Theory*”, September 2008

“*Gerbes, Groupoids and Quantum Field Theory*”, June 2006

“*Tensor categories in mathematics and physics*”, June 2004

“*Mathematical Aspects of String Theory*”, September 2001

“*Duality, String Theory and M-Theory*”, April 2000

“*Applications of integrability*”, September 1999

“*Quantization, generalized BRS cohomology and anomalies*”, October 1998

“*Conformal and topological field theories and integrability*”, March 1996

“*Beyond the standard model*”, workshop in Bad Honnef, Germany, March 2001, 1997, 1995, 1994, 1993