#### CURRICULUM VITAE as of September 13, 2024

Name: Christoph Schweigert

### Address:

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## 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
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:**

March 2024	Coorganizer of the workshop "New directions in conformal field theory" Hamburg and Fields Institute, Toronto
November 2023	Coorganizer of the Theoretical Physics Colloquium in honour of Edward Witten, Hamburg
June 2023	Coorganizer of the Hausdorff school "TQFTs and their connections to representation theory and mathematical physics", Bonn
November 2021	Coorganizer of the workshop "Quantum Field Theories and Quantum Topology Beyond Semisimplicity" at BIRS, Banff, Canada
February 2021	Coorganizer of the mini-workshop "Non-semisimple Tensor Categories and Their Semisimplification" at MFO Oberwolfach
February 2020	Coorganizer of the concluding colloquium of the Research Training Group 1670
August 2019	Coorganizer of the summer school "Algebraic Structures in Quantum Field Theory", Hamburg
February 2018	Coorganizer of the workshop "Meeting on non-semisimple TFT and logarithmic CFT", Hamburg
December 2017	Coorganizer of the workshop "Quantum Physics meets Mathematics - a workshop on the occasion of Klaus Fredenhagen's 70th birthday", Hamburg
July 2017	Coorganizer of the conference "Stringmath 2017" Hamburg
July 2017	Coorganizer of the summer school "Pre-StringMath Summer School" Hamburg
June 2017	Coorganizer of the workshop "Lessons from conformal field theory" Hamburg
December 2016	Coorganizer of the mini-workshop "New interactions between homotopical algebraid quantum field theory" at MFO Oberwolfach
September 2016	Coorganizer of the workshop "Local quantum physics and beyond" in memoriam Rudolf Haag, Hamburg, Germany
February 2015	Coorganizer of the workshop Infinite-dimensional Structures in Higher Geometry and Representation Theory" Hamburg, Germany
August 2014	Coorganizer of the summer school "Conformal field thery and Nichols algebras" Rauischholzhausen, Germany
February/March 2014	Coorganizer of the workshop "Modern Trends in topological field theory" ESI, Vienna

March 2014	Coorganizer of the annual conference of the research priority area SPP 1388 Representation theory, Soltau, Germany
March 2014	Coorganizer of the workshop "Structures on Tensor Categories and Topological Field Theories", Erlangen, Germany
September 2013	Coorganizer of the workshop "Matrix Factorizations in Algebra, Geometry and Physics". Oberwolfach, September 2013
February 2013	Coorganizer of the workshop <i>"Field theories with defects"</i> Hamburg, February 2013
September 2012	Coorganizer of the workshop <i>"From Poisson to string geometry"</i> Erlangen, September 2012
August 2011	Coorganizer of the workshop "New perspectives in topological field theories" Hamburg, August 2012
August 2012	Coorganizer of a parallel session at the "XIX International Colloquium on Group-Theoretical Methods in Physics", August 2012 Tianjin, China
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 Bejing 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
July 2008 July 2008	Coorganizer of the conference "Noncommutative Structures in Mathematics and Physics", satellite conference to the 5th ECM in Brussels 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	Coorganizer of the workshop "Modularization of premodular categories" on the Ile Bailleron, France
September 1998	Coorganizer of the workshop "Conformal field theory of D-branes" at DESY, Hamburg, Germany.
March 1997	Coorganizer of the workshop "Verlinde formula and conformal blocks" at the 'Mathematisches Forschungsinstitut Oberwolfach', Germany

## Editorship:

2017 -	"Communications in mathematical physics"
2009 -	"Letters in mathematical physics"
2006 -	"Journal of mathematical physics"
2006 - 2021	"Communications in Contemporary Mathematics"
2005 -	Series "Algebra and applications" (Springer)
2003 -	Abhandlungen aus dem mathematischen Seminar der Universität Hamburg

# Fellowships and Prizes:

2021	Scout for Henriette Herz fellowships of the Humboldt foundation
2012	Prize for Mentorship of the Claussen-Simon-Foundation
2007	Gay-Lussac research prize 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	Prix Strasbourg of the Foundation FVS, Hamburg

# Outreach:

2022	Public talk "Monster, Mondschein und Strings" at Museum der Arbeit
2016/2017	Seminar series for the German National Merit Foundation on mathematical
	physics (March 2016, October 2016, March 2016, with Konrad Waldorf)
13.09.2016	Talk at Junge DPG
	"What is and why do we do mathematical physics?"
10.11.2015	Public talk in the colloquium on mathematical modelling
	"Topologial field theory: from categorified representation theory to quantum codes"
07.11.2015	Public talk at the Night of Science
	"Computing with braids"
24.11.2011	Host at the annual Network meeting of the Alexander von Humbodt Foundation
28.11.2008	Public talk at the Science Forum Hamburg at the National Year of Mathematics
	"Zwischen reiner Erkenntnis und Anwendungspraxis: ist die Mathematik
	eine Geisteswissenschaft?"
07.08.2008	Mitwirkung in der Radiosendung von Peter Zaun im Deutschlandradio Kultur
	"Alles ist Super –
	Mit Supersymmetrie, Superstrings und Supermathematik in neue Welten"
23.02.2008	Interview im Abendjournal Spezial NDR 90,3
	"Verborgene Zahlen - wie Mathematik unser Leben beherrscht"
16-18.02.2001	Leitung einer Arbeitsgruppe beim Stipendiaten-Treffen der Studienstiftung in Paris
	"Deutsch-Französische Zukunftsvisionen: Mathematik und Naturwissenschaften

# Teaching

1992 - 1993	Teaching assistant at the Institute for Theoretical Physics of the University of Heidelberg
First term 1997/98	"Conformal Field Theory" LMU Munich
First term $1998/99$	"Boundary conditions and D-branes" ETH Zurich
Second term $1998/99$	"Superstring Theory" ETH Zurich
First term 1999/00	"Advanced quantum mechanics" École Doctorale de physique de la région parisienne "Physics for mathematicians I" University Pierre et Marie Curie, Paris VI
Second term $1999/00$	"Physics for mathematicians II" University Pierre et Marie Curie, Paris VI
First term 2000/01	"Advanced quantum mechanics" "Conformal Field theory for superstrings" École Doctorale de physique de la région parisienne "Physics for medical students I" "Physics for mathematicians I" University Pierre et Marie Curie, Paris VI
Academic year 2001/02	"Advanced quantum mechanics" École Doctorale de physique de la région parisienne "Physics for medical students I" University Pierre et Marie Curie, Paris VI
First term $2002/03$	Lecture "Symmetries in quantum physics" RWTH Aachen, including tutorials
Second term 2003	Lecture "Algebra 1", including tutorials Seminar "Quantum physics and geometry" University of Hamburg
First term 2003/04	Lecture "Algebra 2", including tutorials Lecture "Lie Algebras Seminar "Quantum physics and geometry" University of Hamburg
Second term 2004	Lecture "Quantum groups and tensor categories", Seminar "Homological Algebra" Seminar "Quantum physics and geometry" University of Hamburg
First term $2004/05$	Lecture "Algebraic number theory", including tutorials Seminar "Reflection groups" Seminar "Quantum physics and geometry" University of Hamburg
Second term 2005 First term 2005/06	Sabbatical 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"
First term 2006/07	Seminar "Quantum physics and geometry" 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 20010	Sabbatical
First term 2010/11	Lecture "Advanced Algebra": Representation theory and homological algebra, including tutorials Seminar "Associative Algebras" Research seminar "Mathematical physics" Seminar "Quantum physics and geometry"
Second term 2011	Lecture "Advanced Complex calculus": 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

First term 2012/13	Lecture "Mathematics for physicists I Lecture "Hopf algebras, quantum groups and topological field theory" Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
Second term 2013	Lecture "Mathematics for physicists II Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
First term 2013/14	Lecture "Mathematics for physicists III Lecture "Introduction to conformal field theory" Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
Second term 2014	Lecture "Mathematics for physicists IV Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
First term 2014/15	Lecture "Hopf algebras, quantum groups and topological field theory Lecture "Advanced Algebra": Representation theory and homological algebra, Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
Second term 2015	Sabbatical
First term 2015/16	Lecture "Topology" Seminar "Quantum physics and geometry" Seminar "Presentation of scientific results" Research seminar "Mathematical physics"
Second term 2016	Lecture "Algebraic topology", including tutorials Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
First term 2016/17	Lecture "Algebra", including tutorials Lecture "Homotopical algebra and higher categories" Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
Second term 2017	Lecture "Advanced Algebra": Representation theory and homological algebra, Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
First term 2017/18	Lecture "Topology" Seminar "Quantum physics and geometry" Seminar "Presentation of scientific results" Research seminar "Mathematical physics"
Second term 2018	Lecture "Algebraic topology", including tutorials Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
First term 2018/19	Lecture "Linear algebra I", including tutorials Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"

Second term 2019	Lecture "Linear algebra II", including tutorials Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
First term 2019/20	Lecture "Hopf algebras, quantum groups and topological field theory, including tutorials Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
Second term 2020	Sabbatical
First term 2020/21	Lecture "Topology" Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
Second term 2021	Research seminar "Mathematical physics"
First term 2021/22	Lecture "Linear algebra I", including tutorials Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
Second term 2022	Lecture "Linear algebra II", including tutorials Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
First term 2022/23	Lecture "Hopf algebras, quantum groups and topological field theory, including tutorials Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
Second term 2023	Lecture "Advanced Algebra": Representation theory and homological algebra, Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
First term 2023/24	Lecture "Mathematics 3 for teachers in secondary school, including tutorials Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
Second term 2024	Seminar "Quantum physics and geometry" Research seminar "Mathematical physics"
First term $2024/25$	Sabbatical

## Supervision:

<u>Habilitations</u>: Ehud Meir (University of Hamburg, 2018) Ingo Runkel (University of Hamburg, 2005) Urs Schreiber (University of Hamburg, 2011) Christoph Wockel (University of Hamburg, 2018)

## <u>PhD</u>:

Till Barmeier (University of Hamburg, 2010) Alexander Barvels (University of Hamburg, 2014) Lukas Buhné (University of Hamburg, 2015) Pedro Maria da Costa Santos Bordalo (Université Pierre et Marie Curie, Paris VI, 2004) Julian Farnsteiner (University of Hamburg, 2023) Jan Hesse (University of Hamburg, 2017) David Jaklitsch (University of Hamburg, 2023) Vincent Koppen (University of Hamburg, 2020) Jennifer Maier (University of Hamburg, 2011) Svea Mierach (with Y. Sommerhäuser, Memorial University and University of Hamburg, 2020) Daniel Nett (University of Hamburg, 2015) Thomas Nikolaus (University of Hamburg, 2011) Tobias Ohrmann (University of Hamburg, 2018) Jan Priel (University of Hamburg, 2016) Efrossini Tsouchnika (University of Hamburg, 2008) Johannes Walcher (ETH Zurich, 2001, with J. Fröhlich) Konrad Waldorf (University of Hamburg, 2007) Jan-Ole Willprecht (University of Hamburg, 2023) Lukas Woike (University of Hamburg, 2020) Yang Yang (University of Hamburg, 2022)

Master and diploma theses:

Samer Bacho (University of Hamburg, Master in Mathematics) Till Barmeier (University of Hamburg, Diploma Mathematics), Alexander Barvels (University of Hamburg, Diploma Mathematics) Tim Berberich (University of Hamburg, Master in Mathematical Physics, with Urs Schreiber) Sjuvon Chung (University of Hamburg, Master in Mathematics) Florian Conrady (University of Heidelberg, Diploma in Physics, with Michael G. Schmidt), DeLazzer Meunier, Adrien (University of Hamburg, Master in Mathematical Physics) Julian Farnsteiner (University of Hamburg, Master in Mathematical Physics) Jonas Haferkamp (University of Hamburg, Master in Mathematical Physics) Jan Hesse (University of Hamburg, Master in Mathematical Physics) Tessa Ibs (University of Hamburg, Master in Mathematics) David Jaklitsch (University of Hamburg, Master in Mathematical Physics) Eilind Karlsson (University of Hamburg, Master in Mathematical Physics) Hannes Knötzele (University of Hamburg, Master in Mathematical Physics) Vincent Koppen (University of Hamburg, Master in Mathematical Physics) Katarina Kring (University of Hamburg, Diploma Mathematics), Alexandra Kruppa (RWTH Aachen, Diploma Physics), Shadi Lemanczyk (University of Hamburg, Diploma Mathematics), Jennifer Maier (University of Hamburg, Diploma Mathematics), Svea Mierach (University of Hamburg, Master in Mathematics) Pushya Mitra (University of Hamburg, Master in Mathematical Physics) Lukas Müller (University of Hamburg, Master in Mathematical Physics)

Thomas Nikolaus (University of Hamburg, Diploma Mathematics), Adam Olszewski (University of Hamburg, Master in Mathematics) Kasper Peeters (UvA Amsterdam, Physics with J.W. van Holten) Charlotte Peikert (University of Hamburg, Higher Education) Jakob Salfeld-Nebgen (ETH Zurich, Master in Physics, with M. Gaberdiehl) Indra Repczuk (University of Hamburg, Higher Education) Linda Sass (University of Hamburg, Diploma Mathematics) Jean Savinien (University of Paris 6, Mémoire de DEA) Pauline Schulze (University of Hamburg, Master in Mathematics) Kemal Tezgin (University of Hamburg, Master in Mathematical Physics) Anke Tiedemann (University of Hamburg, Higher Education) Steffen Thaysen (University of Hamburg, Master in Mathematics) Maike Tormählen (University of Hamburg, Diploma Physics, with Volker Schomerus) Rainer Tobaben (University of Hamburg, Diploma Mathematics) Christopher Tropp (University of Hamburg, Master in Mathematical physics) Luis Vasquéz (University of Hamburg, Mathematics) Konrad Waldorf (RWTH Aachen, Physics), Konrad Waldorf (University of Hamburg, Diploma Mathematics) Kian Wegmeyer (University of Hamburg, Master in Mathematics) Niko Wilbert (RWTH Aachen, Diploma Physics) Jan-Ole Willprecht (University of Hamburg, Master in Mathematics) Lukas Woike (University of Hamburg, Master in Mathematical physics) Yang Yang (University of Hamburg, Master in Mathematical physics) Stefan Zetsche (University of Hamburg, Mathematics) Bachelor Theses: Fabian Bannach (University of Hamburg, Higher Education) Adrian Boerner (University of Hamburg, Mathematics) André Beuckelmann (University of Hamburg, Mathematics) Alexander Block (University of Hamburg, Mathematics, joint with Klaus Fredenhagen, Physics) Xin Chen (University of Hamburg, Mathematics) Max Demirdilek (University of Hamburg, Mathematics) Lennart Döppenschmitt (University of Hamburg, joint with Jan Louis, Physics) Sebastian Fleischer (University of Hamburg, Mathematics) Carl Foth (University of Hamburg, Mathematics) Till Heine (University of Hamburg, Mathematics) Laura Kähler (University of Hamburg, Mathematics) Timm Kenntner (University of Hamburg, joint with Timo Weigand, Physics) Vincent Koppen (University of Hamburg, joint with Jan Louis, Physics) Simon Krause-Solberg (University of Hamburg, Mathematics) Robert Laugwitz (University of Hamburg, Mathematics) Johannes Lederich (University of Hamburg, Mathematics) Thomas Lesmann (University of Hamburg, Mathematics) Nils Matthes (University of Hamburg, Mathematics) Sibilla Mazza (University of Hamburg, Mathematics) Corinna Menz (University of Hamburg, Mathematics) Max Miller (University of Hamburg, Mathematics) Yannick Mogge (University of Hamburg, Mathematics) Carsten Muhsfeldt (University of Hamburg, Mathematics) Paul Neumann (University of Hamburg, Mathematics) Klara Elise Pfeiffer (University of Hamburg, Mathematics, joint with Thore Posske, Physics) Viola Pfeiler (University of Hamburg, Mathematics) Lidiya Pryymak (University of Hamburg, Mathematics)

Indra Repczuk (University of Hamburg, Higher Education) Martin Rohmann (University of Hamburg, Mathematics) Malin Schemschat (University of Hamburg, Mathematics) Leonard Schmiester (University of Hamburg, Mathematics) Lennart Schneider (University of Hamburg, Mathematics) Svenja Smarsly (University of Hamburg, Mathematics) Mareile Schulz (University of Hamburg, Higher Education) Fabian Thiele (University of Hamburg, Mathematics) Cem Chi-Tho Truong (University of Hamburg, Mathematics) Heidi Ursula Wallon Pizarro (University of Hamburg, Mathematics) Kian Wegmeyer (University of Hamburg, Mathematics) Cora Welsch (University of Hamburg, Mathematics) Jan-Ole Willprecht (University of Hamburg, Mathematics) Lukas Woike (University of Hamburg, joint with Jan Louis, Physics) Jara Wroblewski (University of Hamburg, Mathematics) Clemens Zeile (University of Hamburg, Mathematics) Pamela Zilliken (University of Hamburg, Mathematics)

Master theses in progress: Sam Bauer, Max Demirdilek, Alea Hofstetter, Thomas Lesmann <u>PhD research in progress</u>: Max-Niklas Steffen

Grants:	(selection)
2002	Grant of the Ministère d'Education Nationale for the
	PhD-research of Pedro Bordalo
10/00-9/02	Marie Curie Fellowship for Ingo Runkel
10/02-9/04	Marie Curie fellowship for Giuseppe D'Appollonio
10/04-09/06	DFG priority program "String theory": one postdoc
01/05 –	German-Israeli-Foundation, with Weizman Institute, Rehovot
	one postdoc, one PhD student
2005, 2010	e-learning consortium Hamburg
2005	Fellowship of the Rudolf and Erika Koch Foundation for a PhD student
05-07	DAAD Exchange project with University of Zagreb (Croatia)
2005-06	Host of Humboldt fellow Terry Gannon
2005-06	Host of Humboldt fellow Gor Sarkissian
2011-2012	Host for research visit Martín Mombelli
2006-2018	Project leader in the DFG Collaborative reserach center "Particles, Strings
	and the early Universe: one postdoc, one PhD position
2008-2011	Acting host of the Emmy-Noether group "Conceptual questions of quantum gravity"
	(Dr. Catherine Meusburger, with one postdoc and two PhD students)
2008-2015	Project leader in the DFG research priority program "Representation
	"theory: one PhD position
2015	Host for Humboldt visit Sonia Natale
2015	Host for Humboldt visit Nicolas Andruskiewitsch
2011 - 2020	Project leader in the GrK 1670 "Mathematics inspired by
2010 2021	string theory and quantum field theory", one PhD position, one Postdoc
2019-2021	Host for Humboldt fellow Cesar Galindo
2019 - 2026	Project leader in the Excellence Cluster "Quantum Universe
2020	Host of Humboldt prize winner Prof. Boris Feigin (Moscow)
2022 -	Host for Humboldt fellow Simon Wood
2022-	Mentoring for the Emmy-Noether groups
	"Vertex algebras for two- and four-dimensional conformal field theories (Dr. Sven Moller) "Topological quantum field theory in more than three dimensions" (Dr. David Reutter)

## Service to the community:

### **Present**:

Member of the executive board of the excellence cluster "Quantum Universe" Spokesperson of the research training group 1670 "Mathematics inspired by string theory and quantum field theory'

Acting head of the Center for Mathematical Physics

Responsible for the modules Linear Algebra and Algebra

Member of 15 hiring committees at the University of Hamburg, 4 as head of the committee

### Past

- 2003-2008 Coordinator for service teaching for physicists
- 2003-2008 Member of the committee for the creation of bachelor and master programs
- 2003-2006 Member of the committee on structural development of the department of mathematics
- 2003-2017 in charge of the library of the mathematics department
- 2005-2008 Member of the council of the department of mathematics
- 2005-2007 Member of the faculty council of the MIN faculty
- 2006-2009 and 2012-2018 Member of the executive board of the research priority area SFB 676 "Particles, Strings and the early universe"
- 2009-2015 Member of the steering committee of the DFG priority program 1388 "*Representation theory*"
- 2011-2015 Deputy Spokesperson of the research training group 1670 "Mathematics inspired by string theory and quantum field theory"
- 2017-2020 Member of the steering committee of the excellence cluster "Quantum Universe"
- 2015-2020 Spokesperson of the research training group 1670 "Mathematics inspired by string theory and quantum field theory"
- 2023- Member of the steering committee of the excellence cluster "Quantum Universe"

## Invited seminars:

Abu Dhabi	NYUAD
Argentina	Córdoba
Australia	Canberra
Austria	TU Wien, Schrödinger Institut
Belgium	Ghent
Canada	Banff, Edmonton, Montréal, Memorial University St. John's
China	BIMSA Beijing, Naning, Fudan University Shanghai
Columbia	Barranquilla
Denmark	Aarhus, Copenhagen, Odense
France	Dijon, Ecole Polytechnique, Ecole Normale Supérieure, IHES, Institut Henri Poincaré, Lille, ENS Lyon, Lyon I, Montpellier, Nantes, Orsay, CEA Saclay
Germany	Aachen, Augsburg, HU Berlin, Bielefeld, Bochum, Bonn, MPI Bonn, IU Bremen, Cologne, Darmstadt, DESY, Dresden, Erlangen, Frankfurt, Freiburg, Göttingen, Greifswald, Hamburg, Hanover, Heidelberg, Jena, Kaiserslautern, Leipzig, Mainz, Marburg, LMU Munich, TU Munich, Münster, Paderborn, Potsdam, MPI Potsdam, Regensburg, Tübingen, Wuppertal, Würzburg
Great Britain	Cardiff, Durham, Edinburgh, City University London, Imperial College London, Nottingham (online), Oxford, York
Hungary	Eötvös Lorand University, Budapest
Ireland	DIAS Dublin, Trinity College Dublin
Italy	Florence, Perugia, Rome II, Turino
Korea	Institute for basic science, Pohang
Netherlands	Universiteit van Amsterdam, Nijmegen, NIKHEF, RU Leiden, Utrecht
Norway	Kongsberg
Poland	Będlewo
Portugal	Lisbon, Porto
Russia	St. Petersburg
Sweden	Gothenborg, Karlstad, KTH Stockholm
Switzerland	CERN, Geneva, ETH Hönggerberg, ETH Zentrum, SwissMAP, Fribourg
USA	Brandeis, UC Berkeley, UC Davis, Harvard, USC Los Angeles, MIT, MSRI (online), Princeton, UC Riverside, Rutgers, UC Santa Cruz, Simons Center, SUNY Stony Brook

### Invited talks on conferences:

Recent Developments in Topological Quantum Field Theory, BIMSA Beijing, September 2024 Homotopical algebra and higher structures, Oberwolfach, August 2024

Subfactors and fusion (2-)categories, Banff, December 2023 Categorical symmetries in quantum field theory, Les Diablerets, August 2023 Groups, Rings, Lie and Hopf Algebras, Memorial University of Newfoundland Harlow, UK, August 2023 Higher Structures in Functorial Field Theory, Regensburg, August 2023 Representations in higher structures, Workshop, Greifswald, June 2023 Homotopy Algebras and Higher Structures, Paris, May 2023 Hopf Algebras and Tensor Categories, Marburg, May 2023 Geometric/Topological Quantum Field Theories and Cobordisms 2023, Abu Dhabi, March 2023

Quantum symmetries: tensor categories, topological quantum field theories, vertex algebras, Montreal, C ESI Program on Tensor Networks: Mathematical Structures and Novel Algorithms', October 2022 ESI Program on Higher Structures and Field Theory', August 2022

Subfactors, Vertex Operator Algebras, and Tensor Categories, Hangzhou, China (online), September 2022 Conference on vertex algebras and related topics, Darmstadt, Germany, September 2021 The Mathematics of Conformal Field Theory II, Canberra, Australia, July 2021 AIM workshop Fusion categories and tensor networks, March 2021

Alexander-von-Humboldt Workshop Hopf Algebras and Tensor Categories,

Cordoba-Hamburg-Marburg (online), August 2020

Higher Structures and Field Theory, ESI (online), two talks August and September 2020 Tensor categories and topological quantum field theories, MSRI (online), March 2020 Geometry, Topology and Physics at NYUAD, Abu Dhabi (online), March 2020

Subfactors and Applications, Oberwolfach, October 2019

International workshop on Hopf algebras and tensor categories, Nanjing, China, September 2019 Beyond Rationality 2: Post-Rational Conformal Field Theory, Woudschoten, Netherlands, May 2019 Geometry and Integrable Systems, Dijon, France, April 2019 Humboldt Kolleg "Measuring Amercia", Barranquilla, Columbia, March 2019

Current Progress in Mathematical Physics, Harvard, USA, December 2018 Fusion Categories and Subfactors, Banff, Canada, October 2018 Homotopy algebras, deformation theory and quantization, Mathematical Research and Conference Center in Bedlewo, Poland Higher Structures in M-Theory, Durham, UK, August 2018 AQFT: where operator algebra meets microlocal analysis, Palazzone, Cortona, Italy, June 2018 On Noncommutativity and Physics: Hopf algebras in Noncommutative Geometry Bayrischzell, Germany, April 2018 Tensor Categories and Topological Field Theory (Minicourse), Atlantic Algebra Center, Memorial University, St. John's, Canada, March 2018 Tensor categories, Hopf algebras and quantum groups, Marburg, Germany, January 2018 String Field Theory of Landau-Ginzburg models. Institute for Basic Science, Pohang, Korea, September 2017 Boundary and Defect Conformal Field Theory: Open Problems and Applications. Royal Society, Chicheley Hall, September 2017 Modern mathematics of Quantum Theory, York, September 2017 Tensor categories and topological quantum matter, Shanghai, June 2017

Foundational and structural aspects of gauge theories, Mainz, June 2017

New interactions between homotopical algebra and quantum field theory, Oberwolfach, December 2016 Classical and quantum symmetries in mathematics and physics, Jena, July 2016 Annual meeting DMV/GAMM, Braunschweig, March 2016

Humboldt Kolleg Colloquium on algebras and representation – Quantum 16, Córdoba, Argentina, March 2016.

Higher Structures in String Theory and Quantum Field Theory, ESI, Vienna, December 2015Higher TQF and categorical quantum mechanics, ESI, Vienna, October 2015Nichols algebras and their Interactions with Lie theory, Hopf algebras and tensor categories, Banff, Canada, September 2015

New developments in TQFT, Aarhus, Denmark, July 2015

Quantum Topology, Euler International Mathematical Institute, St. Petersburg, Russia, July 2015 AMS-EMS-SPM International Meeting, Porto, Portugal, June 2015

Higher Structure 2014, Geneva, Switzerland, October 2014 ESI Programme: Topological Phases of Quantum Matter, Vienna, Austria, September 2014 Homological Methods in Algebra, Geometry and Physics, London, July 2014 Group 30, Ghent, Belgium, July 2014 String-Math 2014, Edmonton, Canada, June 2014

Modern trends in topological field theory, ESI, Vienna, March 2013 Structures on Tensor Categories and Topological Field Theories, Erlangen, Germany, March 2013 Moduli, operads, dynamics, Kongsberg, Norway, July 2013 Nederlands Mathematisch Congress, Nijmegen, April 2013

Opening talk of the Bielefeld graduate school in theoretical sciencies, November 2012 IV Congreso Latinoamericano de matematicos, Cordoba, Argentina, August 2012 ESI Program on K-Theory and Quantum Fields 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 Darstellungstheorietage, 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

"Géometrie 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": "Homotopical algebra and higher structures", August 2023 "Subfactors and Applications", October 2019 "New interactions between homotopical algebra", December 2016 "Factorization Algebras and Functorial Field Theories", May 2016 "Subfactors and Conformal Field Theory", March 2015 "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: "Tensor Networks: Mathematical Structures and Novel Algorithms", October 2022 "Higher Structures and Field Theory", August 2022 "Higher Structures and Field Theory", September 2020 "Higher structures in string theory and quantum field theory", December 2015 "Higher topological quantum field theory and categorical quantum mechanics", October 2015 "Topological phases of quantum matter", September 2014 "Modern trends in topological field theory", March 2014 "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

## **Invited Seminars:**

2024	Stringnet methods for CFT correlators BIMSA Bejing, China, September 2024
	Davydov-Yetter cohomology: some tools and applications Oberwolfach, August 2024
	Module categories over tensor categories: some structures and some applications Isle of Skye, June 2024
	Traces and higher structures Lisbon (online), Portugal, May 2024
2023	Duality beyond rigidity Banff, Canada, December 2023
	Relative Serre functors Edinburgh, UK, October 2023
	Relative Serre functors Heidelberg, Germany, October 2023
	String-net methods for CFT correlators SwissMAP, Les Diablerets, Switzerland, August 2023
	Davydov-Yetter, comonad and relative cohomology Memorial University, Harlow Campus, UK, August 2023
	Traces and higher structures Regensburg, Germany, August 2023
	Traces and higher structures Greifswald, Germany, June 2023
	Skein-theoretic methods for CFT correlators Galilei-Institute, Florence, June 2023
	String-net methods for CFT correlators Institut Henri Poincaré, Paris, May 2023
	Davydov-Yetter, comonad and relative cohomology Marburg, Germany, May 2023
	String-net methods for CFT correlators New York University at Abu Dhabi, March 2023
2022	Traces and a graphical calculus in 3 dimensions CRM Montreal, Canada, October 2022
	Tensors, state-sum TFTs and evaluation of extruded graphs ESI, Vienna, Austria, October 2022
	Traces and higher structures ESI, Vienna, Austria, August 2022
	Relative Serre functors Bonn, Germany, July 2022
	Relative Serre functors Lille, France, June 2022

Rigidity in conformal field theory and (vertex) algebras beyond rigidity Rocky-mountain seminar (online), Februar 2022 2021 More about CFT correlators

One world IAMP mathematical physics seminar, December 2021 (online)

Topological field theories with boundaries – applications to tensor networks and representation theory

Center for quantum mathematics, Odense, Denmark, November 2021

Bulk fields in conformal field theory

Higher Structures & Field Theory Seminar, Erlangen, Wien, Würzburg, München, November 2021

Rigidity in conformal field theory and (vertex) algebras beyond rigidity Subfactors, Vertex Operator Algebras, and Tensor Categories, Hangzhou, China (online), September 2021

Rigidity in conformal field theory and (vertex) algebras beyond rigidity Conference on vertex algebras and related topics, Darmstadt, Germany, September 2021

More about bulk fields

The Mathematics of Conformal Field Theory II, Canberra, Australia (online), March 2021

Quantum groups and antipodes Colloquium Cardiff (online), March 2021

Topological field theories with boundaries and symmetries of tensor networks AIM Workshop Fusion categories and tensor networks (online), March 2021

2020 Relative Serre functors, Frobenius algebras and some applications to conformal field theory University of Münster, Germany, December 2020

Topological field theories with boundaries – about tensor networks and Frobenius-Schur indicators University of Würzburg, Germany, December 2020

Topological field theories with boundaries - some constructions and some applications Uqsl-seminar (online), November 2020

Topological field theories with boundaries - some constructions and some applications ESI, Vienna, Austria (online), September 2020

Modular tensor categories and topological field theories Humboldt Workshop Hopf Algebras and Tensor Categories (online), August 2020

Bulk fields in conformal field theory ESI, Vienna, Austria (online), August 2020

Bulk fields in conformal field theory Nottingham (online), United Kingdom, June 2020

Bulk fields in conformal field theory MSRI (online), Berkeley, March 2020

Bulk fields in conformal field theory NYAD (online), Abu Dhabi, March 2020

String nets and invariants of mapping class groups University of Copenhagen, January 2020 2019 Bulk fields in conformal field theory Odense, Denmark, December 2019

> String net models and CFT correlators Nijmegen, The Netherlands, December 2019

String nets and invariants of mapping class groups Oberwolfach, October 2019

String net models and CFT correlators Nanjing, China, September 2019

String net models and CFT correlators TU Munich, Germany, July 2019

String net models and CFT correlators University of Gent, Belgium, June 2019

Quantum groups and antipodes University of Würzburg, Germany, May 2019

Bulk fields in conformal field theory Beyond rationality, Woudschoten, The Netherlands, May 2019

Bulk fields in conformal field theory Dijon, France, May 2019

Modular tensor categories as higher invariants – a tour from solid state physics to mathematics Barranquilla, Columbia, March 2019

From groupoid cardinality to Drinfeld doubles. Córdoba, Argentina, March 2019

State sum models with defects Niels Bohr Institute, Copenhagen, Denmark, January 2019

#### 2018 Bulk fields in conformal field theory Harvard University, USA, December 2018

Hochschild cohomology and the modular group Technical University Dresden, Germany, November 2018

State sum constructions beyond fusion categories Fusion Categories and Subfactors, Banff, Canada, October 2018

Quantum groups and antipodes University of Alberta, Edmonton, Canada, October 2018

More about modular functors Homotopy algebras, deformation theory and quantization, Mathematical Research and Conference Center in Będlewo, Poland, September 2018

Logarithmic conformal field theory - an attempt at a status report Higher Structures in M-Theory, LMS-EPSRC Symposium, Durham, UK, August 2018

Topological field theory beyond semisimplicity AQFT: where operator algebra meets microlocal analysis, Palazzone, Cortona, Italy, June 2018

State sum models beyond semisimplicity Bayrischzell, Germany, April 2018

Coends, a Lego-Teichmüller game and correlators in (non-)semisimple conformal field theory

Université Lyon I, March 2017

Tensor Categories and Topological Field Theory (Minicourse), Atlantic Algebra Center, Memorial University, St. John's, Canada,

Eilenberg-Watts calculus for finite categories and a bimodule Radford  $S^4$  theorem Workshop Workshop Tensor categories, Hopf algebras and quantum groups, Marburg, January 202

2017 Boundary conditions and defects in low-dimensional field theories Workshop String Field Theory of Landau-Ginzburg models, Pohang, Korea, September 2017

CFT with and without Boundaries: from a Holographic Picture to Logarithmic CFTs Boundary and Defect Conformal Field Theory: Open Problems and Applications. Royal Society, Chicheley Hall, September 2017

Coends, a Lego-Teichmüller game and correlators in (non-)semisimple conformal field theory Modern mathematics of Quantum Theory, York, September 2017

Defects in topological field theory: new tools and applications in physics Workshop on Tensor categories and topological quantum matter, Shanghai, June 2017

Tensor categories and topological field theories and how to obtain them from Dijkgraaf-Witten theories

Workshop on Tensor categories and topological quantum matter, Shanghai, June 2017

Higher structures in Dijkgraaf-Witten theories

Workshop on Foundational and structural aspects of gauge theories, Mainz, June 2017

Eilenberg-Watts calculus for finite categories and a bimodule Radford  $S^4$  theorem Transformation groups and mathematical physics, Jacobs University Bremen, March 2017 A Lego-Teichmüller game for logarithmic conformal field theories Utrecht, The Netherlands, March 2017

Eilenberg-Watts calculus for finite categories and a bimodule Radford  $S^4$  theorem Workshop on quantum topology, Lille, France, March 2017

2016 Turaev-Viro theories from non-semisimple spherical categories Workshop on New interactions between homotopical algebra and quantum field theory Oberwolfach, Germany, December 2016

Defects in topological field theory: from categorical tools to applications in representation theory Université de Montpellier, October 2016

Defects in topological field theory: new tools and applications in physics Université Paris 6, France, October 2016

Corellators for non semi-simple CFTs MIT, USA, October 2016

Defects in topological field theory: from categorical tools to applications in physics and representation theory Jena, Germany, July 2016

Categorical tools for state sum constructions Braunschweig, Germany, March 2016

TV theories with defects and representation theory Córdoba, Argentina, March 2016

2015 State sum constructions of extended TFTs and defects Erwin Schrödinger Institute, Vienna, December 2015

An isomorphism in representation theory and its interpretation in TFT University of Vienna, Austria, December 2015

Traces for bimodule categories, generalized Wilson lines and generalized onformal blocks Erwin Schrödinger Institute, Vienna, October 2015

Conformal field theory, tensor categories and module categories Banff, Canada, September 2015

Surface defects in TV theories, Brauer Picard groups and some relations representation theory University of Aarhus, Denmark, July 2015

TV theories with defects and representation theory Euler International Mathematical Institute, St. Petersburg, Russia, July 2015

Invariants for mapping class group actions from ribbon Hopf algebra automorphisms University of Leipzig, Germany, July 2015

Invariants for mapping class group actions from ribbon Hopf algebra automorphisms University of Darmstadt, Germany, June 2015

TFT with defects and representation theory University of Jena, June 2015

Invariants for mapping class group actions from ribbon Hopf algebra automorphisms AMS-EMS-SPM International Meeting, Porto, Portugal, June 2015

Symmetries and defects in 3d TFT AMS-EMS-SPM International Meeting, Porto, Portugal, June 2015 TFT with defects and representation theory University of Potsdam, May 2015

Defects in topological field theory and an isomorphism in representation theory University of Leipzig, May 2015

RCFT correlators and surface defects in three-dimensional topological field theory Workshop on Subfactors and Conformal Field Theory, Mathematisches Forschungsinstitut Oberwolfach, Germany, March 2015

2014 Boundary conditions and defects in three-dimensional topological field theory University of Geneva, Switzerland, October 2014

Surface Defects, Symmetries and Dualities Erwin Schrödinger Institute, Vienna, March 2014

Boundary conditions and defects in three-dimensional topological field theory City University London, Great Britain, July 2014

Surface defects and symmetries University of Ghent, Belgium, July 2014

Symmetries and defects in 3d topological field theories Stringmath 2014, Edmonton, Canada, June 2014

Invariants for mapping class group actions from ribbon Hopf algebra automorphisms Erwin Schrödinger Institute, Vienna, March 2014

Invariants for mapping class group actions from ribbon Hopf algebra automorphisms University of Erlangen, Germany, March 2014

Some applications of module categories to field theories University of Dijon, France, January 2014 2013 Surface defects in topological field theories: construction, classification and applications University of Göttingen, Germany, November 2013 Surface defects in topological field theories: construction, classification and applications University of Bonn, Germany, November 2013

Defects in TFTs and module categories University of Heidelberg, Germany, July 2013

Module categories and boundary conditions for three-dimensional topological field theories Moduli, operads and dynamics, Kongsberg, Norway, July 2013

Module categories and some of their applications to field theories University of Bielefeld, April 2013

Module categories and some of their applications Nederlands Mathematisch Congress 2013, Nijmegen, April 2013

The Drinfeld double: geometric and algebraic aspects University of Nijmegen, April 2013

2012 Large groups in mathematics, small scales in physics and a reason for finding integer numbers Opening talk of the Bielefeld graduate school in theoretical sciences, November 2012

Boundary conditions and defects in 3d TFT University of Karlstad, Sweden, September 2012

Invariants for mapping class group actions from ribbon Hopf algebra automorphisms IV Congreso Latinoamericano de matematicos, Cordoba, Argentina, August 2012

Bicategories for boundary conditions and surface defects in 3d TFT LMU Munich, July 2012

Bicategories for boundary conditions and surface defects in 3d TFT ESI Program on K-Theory and Quantum Fields, June 2012

Modular invariant Frobenius algebras from ribbon Hopf algebra automorphisms Integrable lattice models and quantum field theories, Wuppertal, February 2012.

2011 Bicategories in field theories - an invitation Annual meeting of the DMV, Cologne, September 2011

> Bicategories in field theories - an invitation Memorial conference for Maximilian Kreuzer, Vienna, June 2011

The Drinfeld double and some generalizations: algebraic and geometic aspects University of Marburg, Germany, May 2011

Some tools for equivariant constructions in bicategories and their applications to conformal field theory Simons Center, Stony Brook, USA, March 2011

Some tools for equivariant constructions in bicategories and their applications to conformal field theory Ecole Normale Supérieure Lyon, February 2011

The Drinfeld double and some generalizations: algebraic and geometic aspects Ecole Normale Supérieure Lyon, February 2011

Dualities and defects: lessons from the target space and from the worldsheet Ecole Normale Supérieure Paris, February 2011 The Drinfeld double and some generalizations: algebraic and geometic aspects University of Cardiff, Wales, February 2011

2010 Geometric and algebraic structures for general crossed modules Workshop Deformation methods in mathematics and physics, Oberwolfach, September 2010

Gerbes on Lie groupoids CRCG Workshop - Higher Structures in Topology and Geometry IV, Göttingen, June 2010

Bibranes: target space geometry for worldsheet conformal defects KTH Stockholm, 25th Nordic Meeting on Strings, Fields and Branes, March 2010

2009 Bundle gerbes, D-branes and Orientifolds University of Würzburg, December 2009

Rational conformal field theory beyond semi-simplicity – challenges and puzzles University of Jena, November 2009

Mapping class group representations and conformal boundary conditions Workshop "Lie algebras, vertex algebras and automorphic forms" Edinburgh, September 2009

Frobenius algebras in modular tensor categories Summer school "Structures in Lie Representation" Jacobs University Bremen, August 2009

The fundamental gerbe of a compact simply-connected Lie group Seminar Sophus Lie, Göttingen, Germany, July 2009

CFT and algebra in braided tensor categories Workshop on Strings, Fields and Topology Mathematisches Forschungsinstitut Oberwolfach, Germany, June 2009

Bundle gerbes: A geometric framework for Wess-Zumino terms Mathematical Physics Colloquium Karlstad, Sweden, June 2009

Frobenius algebras, Hopf algebras and konformal quantum field theory Mathematical Physics Colloquium Erlangen, May 2009

Bundle gerbes and surface holonomy Mathematical Colloquium Bonn, January 2009

#### 2008 Bundle gerbes and surface holonomy Mathematical Colloquium Münster, October 2008

Bundle gerbes: A geometric framework for Wess-Zumino terms Institute for theoretical physics, University of Heidelberg, Heidelberg, September 2008

Modules and bimodules for bundle gerbes: Wess-Zumino terms for defects and boundaries Erwin-Schrödinger-Institute, Vienna, Austria, September 2008

Bundle gerbes and surface holonomy 5 European Congress on Mathematics, Amsterdam, July 2008

Bundle gerbes and surface holonomy Mathematical physics seminar, RU Utrecht, May 2008

Topological field theory, conformal field theory and Frobenius algebras Mathematics Department Göteborg, Sweden. February 2008 Topological field theory, conformal field theory and Frobenius algebras Albert-Einstein-Institute, Golm, Germany. February 2008

Topologische Feldtheorie, konforme Feldtheorie und Frobenius-Algebren Fachbereich Mathematik der Universität Regensburg, Germany. January 2008

2007 Topological defects and duality in conformal field theory Università di Roma II (Tor Vergata), Italy, October 2007,

> Algebren, Bimoduln und Symmetrien Bundle gerbes and surface holonomy Institut f'ur Mathematik der Universität Göttingen, Germany. July 2007

Algebren, Bimoduln und konforme Feldtheorie Institut für Mathematik der Universität Augsburg, Germany. July 2007

Target space geometry for world sheet topological defects Conference in Mathematical Physics on the Occasion of Jürg Fröhlich's 61st Birthday, Zurich, July 2007

Frobenius algebras in tensor categories and conformal field theory Joint Meeting UMI-DMV, Perugia, Italy, June 2007

Gerbe modules and gerbe bimodules Fachbereich Mathematik der Universität Potsdam, Germany. May 2007

Topologische Feldtheorie, konforme Feldtheorie und Frobenius-Algebren Fachbereich Mathematik der Universität Bochum, Germany. Januar 2007

#### 2006 Gerbes and loop groups

Workshop on infinite-dimensional Lie theory, Mathematisches Forschungsinstitut Oberwolfach, Germany, December 2006

Topologische Feldtheorie, konforme Feldtheorie und Frobenius-Algebren Fachbereich Mathematik der Universität Paderborn, Germany. November 2006

Topologische Feldtheorie, konforme Feldtheorie und Frobenius-Algebren Fachbereich Mathematik der Universität Göttingen, Germany. November 2006

Topologische Defekte in zweidimensionalen Feldtheorien – mathematische und physikalische Aspel Fakultät für Physik und Mathematik der Universität Hannover, Germany. October 2006

Categorification and correlation functions in conformal field theory ICM 2006, Madrid, August 2006

Bimodules and braiding Technical University Darmstadt, Germany, July 2006

Unoriented WZW models and holonomy of bundle gerbes Erwin-Schrödinger-Institute, Vienna, Austria, June 2006

Remarks on rational conformal field theories on unoriented surfaces

18th Workshop on "Foundations and Constructive Aspects of QFT", Hamburg, May 2006

Unoriented WZW models and holonomy of bundle gerbes

Biséminaire Mathématiques-Physique, École Normale Supérieure Paris, March 2006

Frobenius algebras, topological and conformal field theory Mathematics Department, Universiteit van Amsterdam, Netherlands, February 2006 Topologische Feldtheorie, konforme Feldtheorie und Frobenius-Algebren Fachbereich Mathematik der Universität Frankfurt, Germany. January 2006

2005 Algèbres de Frobenius, thèories topologiques et théories conformes Mathematics Department, University of Fribourg, Switzerland, November 2005

Defects and dualities in rational conformal field theories Colloquium at Trinity college, Dublin, September 2005

What are subgroups of quantum groups and why do we study them? Colloquium at Technical University of Darmstadt, June 2005

What are subgroups of quantum groups and why do we study them? Colloquium at the University of Münster, June 2005

Twining characters and Picard groups in rational conformal field theories Lie algebras, vertex operator algebras and their applications, NC State University, Raleigh, NC, May 2005

TFT construction of RCFT correlators – a tour through examples Two talks at ETH Zürich, May 2005.

Algebraic aspects of rational conformal field theories LPTHE, Université Paris 6, March 2005

2004 Picard groups in rational conformal field theory Non-commutative geometry and representation theory in mathematical physics, Karlstad, Schwede

Conformal field theory: questions that have been studied and questions one should ask DESY colloquium, Hamburg, June 2004

Categories and categorification in low dimensional field theories Applications of K-theory to theoretical physics, Institut Poincaré, Paris, March 2004

Algebra and representation theory in braided tensor categories Mathematics Department, HU Berlin, February 2004

2003 Algebras in Tensor categories and conformal field theory First RTGF Meeting (Red Temática de Geometría y Física), Madrid, November 2003

Algebras in Tensor categories and conformal field theory International University Bremen, November 2003

Algebras in Tensor categories and conformal field theory AMS Spring Meeting, Bloomington, IN, April 2003

Flux stabilization and generalized minimal surfaces Altenberg workshop, Germany, February 2003

Conformal field theory: questions that have been studied and questions one should ask University of Kaiserslautern, Germany, February 2003

Strings in Group manifolds and a generalized minimal surface problem Graduiertenkolleg Mathematik, RWTH Aachen, February 2003

Defects, boundaries and Frobenius algebras DIAS, Dublin, Ireland, January 2003

2002 Conformal field theory: questions that have been studied and questions one should ask University of Bonn, Bonn, Germany, November 2002 Frobenius algebras in tensor categories and conformal field theory in two dimensions Three talks in the mathematics department, RWTH Aachen, November 2002

Defects, boundaries and Frobenius algebras 35th International Symposium Ahrenshoop, Berlin, August 1997

D-branes, boundaries and defects "TH-2202", International Conference on Theoretical Physics Paris, UNESCO, 22-27 July 2002

Strings, symmetries and representations XXIV International Colloquium on Group Theoretical Methods in Physics, Paris, July 2002

Vertex operators, conformal blocks and correlation functions I, II, III EuroConference "Vector Bundles on Algebraic Curves" VBAC 2002 Luminy, July 2002

Algebras in tensor categories and conformal field theory University of Hamburg, Germany, June 2002

Conformal field theories, Frobenius algebras and topological field theory GDR "Journées Lyonnaises", Lyon, June 2002

Frobenius algebras, triangulations and tensor categories Meeting on String Theory and Complex Geometry, Bad Honnef, Germany, April 2002

Conformal correlation functions, Frobenius algebras and triangulations 6th Informal U.K. 1 day meeting on 2-dimensional integrable models and conformal field theory. Oxford, Great Britain, April 2002

D-branes, open strings and tensor categories66. Meeting of the German Physical Society, Leipzig, Germany, March 2002

Conformal boundary conditions and Frobenius algebras Max-Planck-Institute for gravitational physics, Golm, Germany, February 2002

Frobenius algebras, triangulations and tensor categories UC Davis, Davis, California, USA, February 2002

Frobenius algebras, triangulations and tensor categories UC Santa Cruz, Santa Cruz, California, USA January 2002

2001 Fuchsian Differential equations, Lie groups and correlation functions University of Tübingen, Germany, December 2001

> D-branes and conformally invariant boundary conditions Conformally invariant boundary conditions and Frobenius algebras Boundaries, D-branes and singularities Workshop on Mathematical aspects of string theory Erwin-Schrödinger-Institute, Vienna, Austria, September 2001

Solitonic sectors, conformal boundary conditions and 3-d TFT RTN Workshop "Conformal symmetry and strings", Anttila, Sweden, September 2001

Conformal boundary conditions and three-dimensional topological field theory NATO Workshop "Statistical field theories", Como, Italy, June 2001

The D-branes of Gepner models CERN, Geneva, Switzerland, June 2001

Conformal boundary conditions and three-dimensional topological field theory Max-Planck-Institute of Mathematics, Bonn, Germany, May 2001 Two-dimensional conformal field theory - some opportunities that have not been missed University of Cologne, Germany, April 2001

Boundary conditions in conformal field theory Beyond the Standard Model, Meeting at Bad Honnef, Germany, March 2001

Modularization and twining characters Technical University Munich, Germany, February 2001

Solitonic sectors, conformal boundary conditions and three-dimensional topological field theory University Paris XI, Orsay, France, February 2001

Boundaries, D-branes and singularities Institut Henri Poincaré, Paris, France, January 2001

2000 Conformal boundary conditions and three-dimensional topological field theory University of Freiburg, Freiburg, Germany, December 2000

Boundaries, D-branes and singularities ETH Zürich, Switzerland, December 2000

Bundles of conformal blocks and their subbundles "Géometrie algébrique complexe", conference at CIRM, Luminy, November 2000

Bundles of conformal blocks and their subbundles ETH Zürich, Switzerland, November 2000

D-branes, open strings and quantum Hall fluids University of Aachen, Aachen, Germany, October 2000

Solitonic sectors, conformal boundary conditions and three-dimensional topological field theory TMR conference "Non-perturbative quantum effects 2000", Paris, September 2000

Boundaries, D-branes and singularities 24th Johns Hopkins Workshop on Nonperturbative QFT methods and their applications. Bolyai College, Budapest, Hungary, August 2000

Conformal boundary conditions and three-dimensional topological field theory XIII International Congress on Mathematical Physics Imperial College, London, UK, July 2000

D-brane conformal field theory and bundles of conformal blocks 3rd European Congress of Mathematics Barcelona, Spain, July 2000

D-branes on group manifolds and flux quantization Ninth Marcel Grossmann Meeting Rome, Italy, July 2000

Some applications of twining characters and orbit Lie algebras Algebra 2000, Pacific Institute for the Mathematical Sciences Edmonton, Canada, June 2000

Strings on group manifolds and generalized minimal surfaces University of Freiburg, Freiburg, Germany, June 2000

D-branes on group manifolds and flux quantization IHES, Bures-sur-Yvette, France, June 2000

What is and why do we study conformal field theory? University of Regensburg, Regensburg, Germany, May 2000

D-branes on group manifolds and flux quantization University of Heidelberg, Heidelberg, Germany, May 2000

Conformal boundary conditions and three-dimensional topological field theory GDR "Structures non perturbatives en théorie des champs et des cordes" ENS Lyon, France, May 2000

D-branes on group manifolds and flux quantization Workshop on Duality, String Theory and M-Theory Erwin-Schrödinger-Institute, Vienna, Austria, April 2000

D-branes on group manifolds and flux quantization UC Berkeley, Berkeley, California, USA, April 2000

D-branes on group manifolds and flux quantization Rutgers University, New Jersey, USA, March 2000

Conformal boundary conditions and three-dimensional topological field theory Rutgers University, Mathematics Department, New Jersey, USA, March 2000

Conformal boundary conditions and three-dimensional topological field theory Séminaire commun Ecole Polytechnique - Ecole Normale Supérieure Groupes quantiques, France, March 2000

Conformal boundary conditions and three-dimensional topological field theory NIKHEF, Amsterdam, The Netherlands, March 2000

Non-simply conncected Lie groups and chiral conformal field theory Séminaire Dual, Université de Nantes, France, February 2000

1999 Conformal boundary conditions and three-dimensional topological field theory Séminaire Commun École Normale Supérieure – LPTHE, Paris, December 1999

Symmetry breaking and WZW branes Workshop on Non-Commutative Gauge Theory Lorentz Center, Leiden, The Netherlands, November 1999

Symmetry breaking and WZW branes Workshop on applications of integrability Erwin-Schrödinger-Institute, Vienna, Austria, September 1999

Some remarks on conformally invariant boundary condition Workshop on mesoscopic systems Ascona, Switzerland, July 1999

Traces on bundles of conformal blocks and boundary conditions in CFT Workshop on Geometry and quantization of symplectic manifolds and quantum integrable systems Ascona, Switzerland, July 1999

D-branes and broken bulk symmetries Workshop on D-branes, vector bundles and bound states, IHES, Bures-sur-Yvette, France, June 1999

D-branes and broken bulk symmetries University of Torino, Torino, Italy, May 1999 D-brane CFT and traces on bundles of conformal blocks Workshop on mathematical aspects of string theory, Mathematisches Forschungsinstitut Oberwolfach, Germany, April 1999,

D-brane conformal field theory Ecole Polytechnique Palaiseau, France, April 1999

Boundary conditions in conformal field theory UC Berkeley, Mathematics Department, Berkeley, California, USA, March 1999

D-brane conformal field theory UC Berkeley, Berkeley, California, USA, March 1999

Introduction to boundary conformal field theory 3 lectures at ETH Hönggerberg, Zürich, Switzerland

1998 Boundary conditions for open strings and tadpole cancellation Workshop on BRST quantization and anomalies, Erwin-Schrödinger-Institute, Vienna, Austria, October 1998.

> Simple currents, orbifolds and T-duality Workshop on "Conformal field theory of D-branes", DESY, Hamburg, Germany, September 1998.

Twining characters and orbit Lie algebras Workshop on Generalized Kac-Moody algebras, Mathematisches Forschungsinstitut Oberwolfach, Germany, July 1998,

Traces on spaces of conformal blocks Eötvös Lorand University, Budapest, Hungary, June 1998,

D-brane conformal field theory Eötvös Lorand University, Budapest, Hungary, June 1998,

D-brane conformal field theory Technical University of Vienna, Vienna, Austria, May 1998,

D-brane conformal field theory CERN, Geneva, Switzerland, March 1998,

D-branes: from free fields to non-trivial backgrounds University of Heidelberg, Heidelberg, Germany, January 1998

D-branes: from free fields to non-trivial backgrounds University of Kaiserslautern, Kaiserslautern, Germany, January 1998 1997 Twining characters and a classifying algebra for boundary conditions Università di Roma II (Tor Vergata), Italy, December 1997,

> Boundary conditions in conformal field theory ETH Hönggerberg, Zürich, Switzerland, November 1997,

Twining characters and orbit Lie algebras ETH Zentrum, Zürich, Switzerland, November 1997,

Boundary conditions in conformal field theory Niels-Bohr-Institute, Copenhagen, Danmark, November 1997,

Boundary conditions in conformal field theory DESY, Hamburg, Germany, November 1997,

A classifying algebra for boundary conditions 31st International Ahrenshoop Symposium, Buckow, Germany, September 1997,

Coset conformal field theories, gauged WZW-models and fixed points NIKHEF, Amsterdam, The Netherlands, June 1997,

A systematic approach to cyclic orbifolds CERN, Geneva, Switzerland, June 1997,

A complex of coinvariants for conformal blocks Workshop on Verlinde formulae and conformal blocks, Mathematisches Forschungsinstitut Oberwolfach, Germany, March 1997,

Kac-Moody algebras, WZW-models, and Verlinde formulae for (non-)simply connected groups

Workshop on Verlinde formulae and conformal blocks, Mathematisches Forschungsinstitut Oberwolfach, Germany, March 1997,

Algebraic aspects of orbifold theories Beyond the Standard Model, Meeting at Bad Honnef, Germany, March 1997 1996 Outer automorphisms of (generalized) Kac-Moody algebras UC Lie Group and Lie Algebra Workshop, Santa Cruz, California, USA, December 1996,

Coset conformal field theories and fixed point theories USC, Los Angeles, California, USA, November 1996,

Twining characters and orbit Lie algebras UC Davis, Davis, California, USA November 1996,

Twining characters and orbit Lie algebras UC Riverside, Riverside, California, USA October 1996,

Coset theories, twining characters and orbit Lie algebras UC Berkeley, Berkeley, California, USA October 1996,

Twining characters and orbit Lie algebras UC Santa Cruz, Santa Cruz, California, USA October 1996,

Twining characters and orbit Lie algebras Séminaire sur la théorie des groupes (M. Duflo, B. Julia, M. Vergne) September 1996, Ecole Normale Superieure, Paris, France

Twining characters, orbit Lie algebras and coset theories XXVIII Summer Institute on String Theory and Extended objects, August 1996,

Ecole Normale Superieure, Paris, France

Twining characters and orbit Lie algebras XXI International Colloquium on Group Theoretical Methods in Physics July 1996, Goslar, Germany

Coset conformal field theories, gauged WZW-models and fixed points University of Mainz, Mainz, Germany, June 1996

Twining characters, coset conformal field theories and modular invariants Workshop on conformal and topological field theory and integrable models, Erwin-Schrödinger-Institute, Vienna, Austria, March 1996

Fixed point resolution in coset conformal field theories University of Kaiserslautern, Kaiserslautern, Germany, February 1996

Twining characters and orbit Lie algebras Séminaire commun Ecole Polytechnique - Ecole Normale Supérieure Groupes quantiques, Palaiseau, France, February 1996

Twining characters and orbit Lie algebras as a novel tool in conformal field theory IHES, Bures-sur-Yvette, France, January 1996

Galois symmetry in conformal field theory DESY, Hamburg, Germany, January 1996

1995	Field identification fixed points and twining characters ETH Hönggerberg, Zürich, Switzerland, December 1995
	Field identification fixed points and twining characters CEA Saclay, Gif-sur-Yvette, France, November 1995
	Fixed point resolution in coset conformal field theories CERN, Geneva, September 1995
	(Quasi-)Galois symmetry and the classical limit of fusion rings University of Munich, Munich, Germany, July 1995
	(Quasi-)Galois symmetry of fusion rings Beyond the Standard Model, Meeting at Bad Honnef, Germany, March 1995
1994	(Quasi-)Galois symmetry of conformal field theory University of Princeton, Princeton NJ, USA, December 1994
	(Quasi-)Galois symmetry of conformal field theory SUNY at Stony Brook, Stony Brook NY, USA, December 1994
	(Quasi-)Galois symmetry of fusion rings Department of Mathematics, MIT, Cambridge MA, USA, December 1994
	The configuration space of gauge theories Brandeis University, Waltham MA, USA, December 1994
	Galois symmetry of rational conformal field theories Landelijk Seminarium theoretical high energy physics, Amsterdam, The Netherlands, November 1994
	The configuration space of gauge theories University of Bonn, Bonn, Germany, October 1994
	Fixed point resolution in coset conformal field theories XIth International Congress of Mathematical Physics, Paris, July 1994
	The configuration space of gauge theories Technical University of Vienna, Vienna, Austria, June 1994
	Can one obtain conformal field theories by the coset construction? Symposium on Mathematical Physics, Enschede, The Netherlands, June 1994
	The coset construction of conformal field theories Meeting of the German Physical Society, Hamburg, Germany, March 1994
	Coset conformal field theories Beyond the Standard Model, Meeting at Bad Honnef, Germany, March 1994
1993	Classification and Poincaré polynomials for $N = 2$ coset models III Alushta Conference, Alushta, Ukraine, June 1993
	N = 2 superconformal coset models and string Compactification Beyond the Standard Model, Meeting at Bad Honnef, Germany, March 1993
1992	N = 2 superconformal coset models and their classification NIKHEF, Amsterdam, The Netherlands, December 1992