Curriculum Vitæ

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EDUCATION

1999-2003	PhD at DAMTP, University of Cambridge, UK *Supervisors:* Matthias Gaberdiel (ETH, Zürich) and Peter Goddard (IAS, Princeton)
1998-1999	Part III Mathematics, with Distinction, University of Cambridge, UK
1997	Vordiplom in Physics and in Mathematics, University of Stuttgart
1995-1998	Double Major in Physics and in Mathematics, University of Stuttgart

POSITIONS

2014 onward	Reader (tenured Associate Professor), **King's College, London**
2010-14	Lecturer (tenured Assistent Professor), **King's College, London**
2009-2010	5 year senior Postdoctoral Fellow, **Kavli Institute for Theoretical Physics (KITP),** University of California, Santa Barbara
2006-2009	Prize Postdoctoral Fellow, **California Institute of Technology**
2003-2006	Postdoctoral Fellow, **University of Hamburg**

ACADEMIC SCHOLARSHIPS AND PRIZES

2006-2009	Caltech Prize Postdoctoral Fellowship (John A. McCone Fellow)
2005	Prize for outstanding teaching, University of Hamburg
2001	Rayleigh-Knight Prize, University of Cambridge
1999	Dirac Prize, St John's College, Cambridge
1998-2003	Jenkins Scholarship, St John's College, Cambridge
1997- 2001	Scholar of the German National Academic Foundation (Studienstiftung)

GRANTS

- **PI for ERC (European Research Council) Consolidator Grant 2015**:
  Higgs bundles: Supersymmetric Gauge Theories and Geometry (HIGGSBNDL).
  Duration of 5 years, starting mid **2016**.
- **STFC Rolling Grant**, King's College, Theoretical Physics Group, Department of Mathematics, ST/J002798/1 **2014-2017**.
- Core Group member for Working Group 2 (String Phenomenology) European MPNS COST Action "The String Theory Universe" 2013-2017.
  PI for COST funded School and Workshop at GGI Florence **2015**
- PI for conference grant from the London Mathematical Society: "Mathematics of String Theory MOST", June **2014**
- PI for conference grant from STFC (co-funded by COST Action "The String Theory Universe") for workshop the Isaac Newton Institute, Cambridge: "Supersymmetry Breaking in String Theory", March **2014**

INVITED PLENARY TALKS

- Plenary talk at **Strings 2009**, Rome, Italy
- Plenary talk at **Strings 2010**, A&M University, Texas, USA
- Plenary talk at **String-Math 2011**, University of Pennsylvania, PA, USA
- Plenary talk at **String-Math 2013**, Simons Center for Geometry and Physics, NY, USA
- Plenary talks at **String Phenomenology**:
  2012 (Cambridge, UK)
  2013 (DESY, Hamburg, Germany)
  2014 (Trieste, Italy)
  2015 (Madrid, Spain)
- Invited Lecturer at the **CERN Winter School 2013**, Geneva, Switzerland
- Invited Speaker at "**Walter Burke Institute for Theoretical Physics**" Inaugural Conference, **Caltech, 2015**
- Invited speaker to numerous international, peer-reviewed conferences: (selection)
  F-theory: Geometry and Physics, 2014 & 2015, **Planck 2014** (Paris, France), **XXIIV. Workshop Beyond the Standard Model, Bad Honnef**, **Iberian Strings 2013**, **Bethe Workshop 2012**, (Bonn, Germany), **Integrability in Gauge and String Theory 2008**, (Utrecht, Netherlands)

VISITING POSITIONS

- Long-term invited visiting position: **Caltech**, 2009-2010, Pasadena, USA
- Short-term invited visiting positions:
  Simons Center for Geometry and Physics, Stony Brook, New York, USA
  CERN, Geneva, Switzerland
  Aspen Center for Physics: Working Group in 2011
  Aspen Center for Physics: Workshop organizer 2015.

ORGANIZATION OF WORKSHOPS AND CONFERENCES

Links to Conferences, Workshops and Schools that I have organized:

"F-theory at 20", 2/2016, Conference at the Burke Institute, Caltech, Pasadena.

"String-Pheno-Cosmo: School and Workshop", 10/2015, (co-funded by COST Action "The String Theory Universe"), Galileo Galilei Institute for Theoretical Physics, Florence, Italy

"**F-Theory at the Interface of Particle Physics and Mathematics**", 8/2015, 4 week workshop, Aspen Center for Physics, CO, USA

"**Mathematics of String Theory (MOST)**", 6/2014, King's College, London, UK

"**Supersymmetry Breaking in String Theory"**, 3/2014, Isaac Newton Institute, Cambridge, UK

PROFESSIONAL SERVICES

Referee: Journal of High Energy Physics, Journal of Physics A, Journal of Statistical Mechanics, Letters in Mathematical Physics, Physics Letters B, Physical Review D, Nuclear Physics B.

Scientific Advisory Committee: String-Math 2014 and String-Math 2016.

At King's College London: Admissions Tutor and Program Director for PhD in Theoretical Physics

PHD STUDENTS AND POSTDOCS

Current PhD Students:
Jin-Mann Wong (year 3), Damiano Sacco (year 2), David Bosticco (year 1).
Past PhD Students:
Craig Lawrie (PhD 2015, postdoc in Heidelberg from 9/2015)
Moritz Kuentzler (PhD 2013)
Postdoc:
Andreas Braun (now postdoc in Oxford Physics/Math)

TEACHING EXPERIENCE

King's College, London:	Lectures:
	Calculus II (Vector Calculus) 2010-2016,
	First year Mathematics Majors (180-250 students)
	Supersymmetry (2011-2016)
	MSc Course, Graduate Level Lecture
CERN	Winter School 2013
	Lectures on String Compactifications and Phenomenology
University of Hamburg:	TA: Electrodynamics, Quantum Mechanics, Thermodynamics
2005	*Prize for outstanding teaching*
University of Cambridge:	Supervisions for Part III Courses:
	String Theory and Conformal Field Theory
St John's College, Cambridge:	Supervisions for the Mathematical Tripos:
	Part IB Electromagnetism
	Part IIB Electrodynamics, Foundations of Quantum Mechanics

RESEARCH PROFILE

Relation between Superstring theory/M-theory compactifications and supersymmetric gauge theories.

- Particle Physics:
  - Formulation of precise requirements on low energy effective theories to have a string theoretic realization
  - Collider (LHC) studies of the phenomenology of the resulting models
- Supersymmetric Gauge Theories:
  - Higgs bundles for supersymmetric gauge theories
  - Realization in F-theory: 4d $N = 1$ and 2d $N = (0, 2)$ supersymmetric gauge theories
  - Connecting Higgs bundles (describing gauge theories) to global geometric data of string compactifications, in particular, algebraic geometry of singular elliptically fibered Calabi-Yau varieties.

Former research interest, until 2010: AdS/CFT correspondence and Integrability.
Gauge/gravity duality, realizing a holographic dual to $N = 4$ supersymmetric Yang-Mills, which provides an exact correspondence between a strongly coupled gauge theory and string theory in anti-deSitter space. See publications on AdS/CFT.