

Curriculum Vitæ

Sakura Schafer-Nameki

Mathematical Institute, University of Oxford
Andrew Wiles Building, Woodstock Road
Oxford OX2 6GG, United Kingdom

Phone: +44 1865 615107
maths.ox.ac.uk email: sakura.schafer-nameki
Webpage

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

2016 onwards Professor of Mathematical Physics, **Mathematical Institute, University of Oxford**
Tutorial Fellow, Wadham College, Oxford

2010-16 Lecturer, then Reader, **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)

PUBLICATIONS

All papers can be downloaded as pdf-files, including citation records, from:

<http://inspirehep.net/search?p=find+a+schafer-nameki>

GRANTS

- **PI for ERC (European Research Council) Consolidator Grant 2015:**
Higgs bundles: Supersymmetric Gauge Theories and Geometry (HIGGSBNDL).
Duration of 5 years, starting **9/2016**.
- **Wiener-Anspach Collaboration Grant**, Oxford-ULB Brussels, 2018-2020.
- **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 2017**, Tel Aviv, Israel
- Plenary talk at **Strings 2010**, A&M University, Texas, USA
- Plenary talk at **Strings 2009**, Rome, Italy
- Plenary talk at **String-Math 2017**, Hamburg, Germany
- Plenary talk at **String-Math 2013**, Simons Center for Geometry and Physics, NY, USA
- Plenary talk at **String-Math 2011**, University of Pennsylvania, PA, USA
- Plenary talks at **String Phenomenology**:
2012 (Cambridge, UK)
2013 (DESY, Hamburg, Germany)
2014 (Trieste, Italy)
2015 (Madrid, Spain)
2016, 2017 (invited but declined)
- Invited Lecturer at the **CERN Winter School 2013**, Geneva, Switzerland
- Invited Lecturer at the **CERN Winter School 2019**, 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 & 2016 & 2017,
Simons Collaborations on Special Holonomy 2016 (Simons Center, USA), **COST Network Conference 2017** (Milano, Italy), **Aspen Workshop on Superconformal theories 2017** (Aspen, USA), **Planck 2014** (Paris, France), **XXIV. 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
 - Aspen Center for Physics**: Working Group in 2017

ORGANIZATION OF WORKSHOPS AND CONFERENCES

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

Eurostrings 2018, 4/2018, London

"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 Conferences; Strings 2018 conference

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

Oxford: Admissions for DPhil in Mathematical Physics

PHD STUDENTS AND POSTDOCS

Current PhD Students:

Julius Eckhardt (year 3), Max Hubner (year 2), Sebastjan Cizel (year 2), Pyry Kuusela (year 2)

Past PhD Students:

Jin-Mann Wong (PhD 2017, postdoc at IPMU, Tokyo); Damiano Sacco (PhD 2017);

Craig Lawrie (PhD 2015, postdoc at University of Pennsylvania); Moritz Küntzler (PhD 2013)

Postdocs:

Dr Andreas Braun (until 9/2019), Dr Heeyeon Kim (until 9/2020), Dr Fabio Apruzzi (until 9/2021), Dr Simone Giacomelli (until 9/2021), Dr Yinan Wang (until 9/2021).

TEACHING EXPERIENCE

| | |
|--------------------------------|--|
| University of Oxford: | Lectures at the Mathematical Institute: String Theory II 2018 Tutorials at Wadham College: Geometry, Metric Spaces and Complex Analysis, Quantum Theory |
| 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: 2005 | TA: Electrodynamics, Quantum Mechanics, Thermodynamics <i>Prize for outstanding teaching</i> |
| 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.

- Supersymmetric Gauge Theories:
 - Higgs bundles for supersymmetric gauge theories
 - Realization in F/M-theory: 4d $N = 1$ and 2d $N = (0, 2)$ supersymmetric 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.
- New geometric structures in string/M-theory:
 - Construction of new special holonomy manifolds, G_2 and Spin(7)
 - Geometric engineering of new low supersymmetric gauge theories within M-theory
 - 3d $N = 1$ theories from M5-branes and Spin(7) holonomy; dualities and 3d-3d correspondence

Other research interests: Until 2016: String Phenomenology, 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

Mainly 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.