

Falk Hassler

Curriculum Vitæ

2500 Central Park Lane, Apt. 1203
College Station, 77840, TX
USA

☎ +1 979-777-2698

✉ hassler@tamu.edu

🌐 www.fhassler.de

Positions Held

- 09/2019-now **Postdoctoral Researcher** at the Mitchell Institute for Fundamental Physics and Astronomy, Texas A&M University
- 09/2018-08/2019 **Postdoctoral Researcher** at the University of Oviedo, Department of Physics
- 09/2015-08/2018 **Postdoctoral Researcher** at the University of North Carolina in Chapel Hill, Department of Physics & Astronomy
- 07/2017-08/2018 **Visiting Scholar** at the University of Pennsylvania in Philadelphia, Department of Physics & Astronomy
- 09/2015-08/2016 **Non-Teaching Adjunct** at the Graduate Center of the City University of New York, Initiative for the Theoretical Sciences
- 09/2015-08/2016 **Visiting Scholar** at the Columbia University in New York, Department of Physics

Education

- 2012–2015 **Ph.D. student** at the Ludwig Maximilian University of Munich
Doctoral thesis: *Double Field Theory on Group Manifolds*
Supervisor: Dieter Lüst
Degree: Doctor rerum naturalium (summa cum laude)
- 2007–2012 **Study of physics** at the Dresden University of Technology (TUD)
Specialization: theoretical physics and mathematics
Diploma thesis: *Semiclassical description of the statistical physics of periodically driven systems*
Degree: Diplom-Physiker (with distinction)
- 2004–2010 **Study of electrical engineering** at the Dresden University of Technology
Specialization: communication and information technology
Diploma thesis: *Design of a DC-DC converter to enhance the efficiency of a UMTS power amplifier*
Degree: Diplom-Ingenieur (with distinction)

Honors and awards

- 2017 **INFN Post-Doctoral Fellowship in Theoretical Physics**
(declined to go to the University of Oviedo)
- 2016 **Otto-Hahn Medal** in recognition of outstanding scientific achievements
- 2012 **Ehrenfried-Walter-von-Tschirnhaus Award** for the best degree of the year
- 2012 **Representative of the TUD** at the Lindau Nobel Laureate Meetings
- 2010 **2nd place at the Ecodesign Award** of the journal *Elektronik*
for diploma thesis in electrical engineering
- 2010 **Innovation Award** of the Industry Club Saxony
for diploma thesis in electrical engineering
- 2007 **Best Student Paper Award** at the IMOC 2007 in Brazil for publication [23]
- 2002 **1st place at the state round of the science competition Jugend-forscht**
for the Project: *Call me!!! – Remote control of electronic equipment by phone*

- 2000 **2nd place at the state round of the science competition Jugend-forscht**
and special award of the Brandenburg's governor for my project:
Voice control of electronic equipment – Eventually my toaster listens to me
- 1999 **3rd place at the nationwide round of the science competition Jugend-forscht**
and innovation award for my project:
Computer based contamination scanning with a gas sensor

Publications

Articles (20)

- [1] S. Demulder, F. Hassler, G. Piccinini, and D. C. Thompson, *Generalised Cosets*, [arXiv:1912.11036](#).
- [2] F. Hassler, J. J. Heckman, T. B. Rochais, T. Rudelius, and H. Y. Zhang, *T-Branes, String Junctions, and 6D SCFTs*, [arXiv:1907.11230](#).
- [3] F. Hassler, D. Lüst, and F. J. Rudolph, *Para-Hermitian Geometries for Poisson-Lie Symmetric σ -models*, *JHEP* **10** (2019) 160, [[arXiv:1905.03791](#)].
- [4] S. Demulder, F. Hassler, and D. C. Thompson, *Doubled aspects of generalised dualities and integrable deformations*, *JHEP* **02** (2019) 189, [[arXiv:1810.11446](#)].
- [5] F. Apruzzi, F. Hassler, J. J. Heckman, and T. B. Rochais, *Nilpotent Networks and 4D RG Flows*, *JHEP* **05** (2019) 074, [[arXiv:1808.10439](#)].
- [6] F. Hassler and J. J. Heckman, *Punctures and Dynamical Systems*, *J.J. Lett Math Phys* (2018) [[arXiv:1711.03973](#)].
- [7] F. Hassler, *Poisson-Lie T-Duality in Double Field Theory*, [arXiv:1707.08624](#).
- [8] P. du Bosque, F. Hassler, and D. Lüst, *Generalized Parallelizable Spaces from Exceptional Field Theory*, *JHEP* **01** (2018) 117, [[arXiv:1705.09304](#)].
- [9] F. Hassler, *The Topology of Double Field Theory*, *JHEP* **04** (2018) 128, [[arXiv:1611.07978](#)].
- [10] F. Apruzzi, F. Hassler, J. J. Heckman, and I. V. Melnikov, *From 6D SCFTs to Dynamic GLSMs*, *Phys. Rev.* **D96** (2017), no. 6 066015, [[arXiv:1610.00718](#)].
- [11] P. du Bosque, F. Hassler, D. Lüst, and E. Malek, *A geometric formulation of exceptional field theory*, *JHEP* **03** (2017) 004, [[arXiv:1605.00385](#)].
- [12] F. Apruzzi, F. Hassler, J. J. Heckman, and I. V. Melnikov, *UV Completions for Non-Critical Strings*, *JHEP* **07** (2016) 045, [[arXiv:1602.04221](#)].
- [13] P. d. Bosque, F. Hassler, and D. Lüst, *Flux Formulation of DFT on Group Manifolds and Generalized Scherk-Schwarz Compactifications*, *JHEP* **02** (2016) 039, [[arXiv:1509.04176](#)].
- [14] R. Blumenhagen, P. du Bosque, F. Hassler, and D. Lüst, *Generalized Metric Formulation of Double Field Theory on Group Manifolds*, *JHEP* **08** (2015) 056, [[arXiv:1502.02428](#)].
- [15] R. Blumenhagen, F. Hassler, and D. Lüst, *Double Field Theory on Group Manifolds*, *JHEP* **02** (2015) 001, [[arXiv:1410.6374](#)].
- [16] F. Hassler, D. Lüst, and S. Massai, *On Inflation and de Sitter in Non-Geometric String Backgrounds*, *Fortsch. Phys.* **65** (2017), no. 10-11 1700062, [[arXiv:1405.2325](#)].

- [17] F. Hassler and D. Lüst, *Consistent Compactification of Double Field Theory on Non-geometric Flux backgrounds*, *JHEP* **1405** (2014) 085, [[arXiv:1401.5068](#)].
- [18] R. Blumenhagen, M. Fuchs, F. Hassler, D. Lüst, and R. Sun, *Non-associative Deformations of Geometry in Double Field Theory*, *JHEP* **1404** (2014) 141, [[arXiv:1312.0719](#)].
- [19] F. Hassler and D. Lüst, *Non-commutative/non-associative IIA (IIB) Q- and R-branes and their intersections*, *JHEP* **1307** (2013) 048, [[arXiv:1303.1413](#)].
- [20] F. Hassler, F. Ellinger, U. Jörges, R. Wolf, and B. Lindner, *A high-speed buck converter for efficiency enhancement of W-CDMA power amplifiers*, *International Journal of Microwave and Wireless Technologies* **4** (2012) 505–514.
[Conference proceedings \(3\)](#)
- [21] S. Demulder, F. Hassler, and D. C. Thompson, *An invitation to Poisson-Lie T-duality in Double Field Theory and its applications*, in *Dualities and Generalized Geometries Corfu, Greece, September 9-16, 2018*, 2019. [arXiv:1904.09992](#).
- [22] R. Blumenhagen, P. du Bosque, F. Hassler, and D. Lüst, *Double Field Theory on Group Manifolds in a Nutshell*, in *Proceedings, 16th Hellenic School and Workshops on Elementary Particle Physics and Gravity (CORFU2016): Corfu, Corfu Island, Greece*, vol. CORFU2016, p. 128, 2017. [arXiv:1703.07347](#).
- [23] F. Hassler, F. Ellinger, and J. Carls, *Analysis of buck-converters for efficiency enhancements in power amplifiers for wireless communication*, in *Microwave and Optoelectronics Conference*, pp. 616–620, 2007.

Invited talks

Conference and workshop talks (17)

- 06/2019 *The Many Facets of Poisson-Lie T-duality*,
Integrability, duality and beyond,
Universidade de Santiago de Compostela, Santiago de Compostela, Spain
- 03/2019 *Poisson-Lie Symmetry and Double Field Theory* (two one hour review talks), String:
T-duality, Integrability and Geometry,
Tohoku University, Sendai, Japan
- 10/2018 *Poisson-Lie T-Duality in Double Field Theory*,
Fundamental Interactions, Geometry and Topology,
Department of Physics "Ettore Pancini", University of Naples Federico II, Italy
- 09/2018 *Taking Advantage of Poisson-Lie Symmetry*,
Dualities and Generalized Geometries, Corfu, Greece
Integrability, Poisson-Lie Symmetry and Double Field Theory
- 05/2018 USU Strings and Black Holes Workshop,
Department of Physics, Utah State University, Logan, USA
- 04/2018 Exceptional Field Theories, Strings and Holography,
Mitchell Institute, Texas A&M, College Station, USA
- 01/2018 *Poisson-Lie T-Duality in Double Field Theory*,
String Dualities and Geometry,
Centro Atomico Bariloche, San Carlos de Bariloche, Argentina
- 07/2017 *Surprisingly Complex Punctures from a Dynamical System*,
String Pheno 2017, Virginia Tech, Blacksburg, USA

- 06/2017 *Extended Space for (half) Maximally Supersymmetric Theories*,
Recent Advances in T/U-dualities and Generalized Geometries,
Rudjer Bošković Institute, Zagreb, Croatia
- 04/2017 *Surprisingly Complex Punctures from a Dynamical System*,
17th Southeastern Regional Mathematical String Theory Meeting,
UNC Chapel Hill, Chapel Hill, USA
- 05/2016 *Generalized Parallelizable Spaces from Exceptional Group Manifolds*,
Generalized Geometry & T-dualities,
Simons Center for Geometry and Physics, Stony Brook, USA
- 08/2015 *Double Field Theory on Group Manifolds*,
CERN-CKC TH Institute on Duality Symmetries in String and M-Theories, CERN
- 10/2014 *String Geometry Beyond the Torus*,
12th Southeastern Regional Mathematical String Theory Meeting,
Duke University, Durham, USA
- 07/2014 *DFT Beyond the Torus*,
Workshop “Frontiers in String Phenomenology”, Ringberg Castle, Tegernsee, Germany
- 05/2014 *Consistent Compactification of Double Field Theory on Non-Geometric Backgrounds*,
Bayrischzell Workshop 2014 on Quantized Geometry and Physics, Bayrischzell, Germany
- 12/2013 *Stringy Geometries in the Context of Double Field Theory*,
Universe Cluster Science Week 2013,
Max-Planck Institut for Extraterrestrial Physics, Garching, Germany
- 03/2013 *Non-commutative IIA and IIB geometries from Q-branes and their intersections*,
International Research Program “The Particle Physics and Cosmology of Supersymmetry
and String Theory”, Spring 2013 Meeting,
Ludwig Maximilians University of Munich, Munich, Germany

Seminar talks (23)

Generalised Quotients

- 12/2019 Group Seminar, Arnold Sommerfeld Center for Theoretical Physics, Munich, Germany
- 12/2019 CRST Seminar, Centre for Research in String Theory (CRST),
Queen Mary University of London, London, UK
- Poisson-Lie T-Duality in Double Field Theory (with DFT introduction)*
- 03/2019 Quantum Field and String Theory Group Seminar,
Humboldt-University Berlin, Berlin, Germany
- 03/2019 Swansea Theory Seminar, Swansea University, Swansea, UK
- 11/2018 "Strings, CFT & Integrability", ETH Zurich, Zurich, Switzerland
- Integrability, Poisson-Lie Symmetry and Double Field Theory*
- 03/2019 String Theory Seminar, Imperial College London, London, UK
- 12/2018 Fields and Strings, Ludwig Maximilians University of Munich, Munich, Germany
- 11/2018 AdS(Algebraic geometry, duality and Strings) seminar,
Yau Mathematical Sciences Center, Tsinghua University, Beijing, China
- 01/2018 *Double Field Theory*,
OIST Seminar, Okinawa Institute of Science and Technology Graduate University, Japan
- 11/2017 *Poisson-Lie T-duality in Double Field Theory*,
YITP Seminar, C.N. Yang Institute for Theoretical Physics, Stony Brook, USA
- Generalized Parallelizable Spaces, Consistent Truncations and Dualities*

- 10/2017 High-Energy Theory Seminar, Mitchell Institute, Texas A&M, College Station, USA
- 09/2017 String Theory Seminar, Virginia Tech, Blacksburg, USA
- 09/2017 HEP-TH Seminar, University of Pennsylvania, Philadelphia, USA
- 03/2016 *Double Field Theory - Double Fun?*,
ISCAP Seminar, Columbia University, New York, USA
- 10/2015 *Exploring Stringy Geometries with Double Field Theory*,
High-Energy Theory Seminar, Mitchell Institute, Texas A&M, College Station, USA
String Geometry Beyond the Torus
- 12/2014 Matrices, Strings & Random Geometries Seminar, IPhT CEA-Saclay, Saclay, France
- 11/2014 High Energy Theory Informal Meeting, Caltech, Pasadena, USA
- 11/2014 Theoretical Elementary Particle Physics Seminar, UCLA, Los Angeles, USA
- 11/2014 Theoretical High Energy Physics Seminar, USC, Los Angeles, USA
- 11/2014 String Theory Group Meeting, Berkeley Center for Theoretical Physics, Berkeley, USA
- 10/2014 Theory Seminar, University of Chicago, Chicago, USA
- 10/2014 String Club, MIT, Cambridge, USA
- 10/2014 YITP Seminar, C.N. Yang Institute for Theoretical Physics, Stony Brook, USA

Teaching and advising experience

Graduate and master students

- 2017–present **Thomas Rochais**, expected graduation 2021 (co-supervisor with Jonathan Heckman)
- 2015–2017 **Pascal du Bosque**, Ph.D. 2017 (co-supervisor with Dieter Lüst)
Doctoral thesis: *Advancements in Double & Exceptional Field Theory
on Group Manifolds*
- 2014–2015 **Pascal du Bosque**, M.Sc. 2015 (co-supervisor with Dieter Lüst)
Master's thesis: *New Backgrounds in Double Field Theory*

Teaching assistant

- 2013–2014 **String theory I**, master's course at Ludwig Maximilians University of Munich
- 2013 **Classical mechanics**, bachelor's course at Ludwig Maximilians University of Munich

Professional experiences and skills

Referee for: **JHEP, Nuclear Physics B**

Software: Mathematica, Singular, SageMath, Python, C, C++, Java, PHP, HTML, CSS

Languages: **German** (mother tongue), **English** (GER C2, proficiency),
French (GER B1, intermediate)

References

Prof. Dr. Dieter Lüst (Ph.D. advisor)

Ludwig-Maximilians-Universität
Theresienstrasse 37
80333 Munich
Germany
✉ dieter.luest@lmu.de
☎ +49 89 2180-4372

Priv.-Doz. Dr. Ralph Blumenhagen

Max-Planck-Institut für Physik
Föringer Ring 6
80805 Munich
Germany
✉ blumenha@mpp.mpg.de
☎ +49 89 32354-276

Dr. Olaf Hohm

Humboldt-University Berlin
Zum Großen Windkanal 6
12489 Berlin
Germany
✉ olaf.hohm@physik.hu-berlin.de
☎ +49 030 2093 66445

Prof. Dr. Jonathan Heckman

University of Pennsylvania
209 South 33rd Street
Philadelphia, PA 19104-6396
USA
✉ jheckman@sas.upenn.edu
☎ +1 215 573-9070

Prof. Dr. Yolanda Lozano

University of Oviedo
C/ Federico García Lorca 18
E-33007 Oviedo
Spain
✉ ylozano@uniovi.es
☎ +34 985 10 33 04