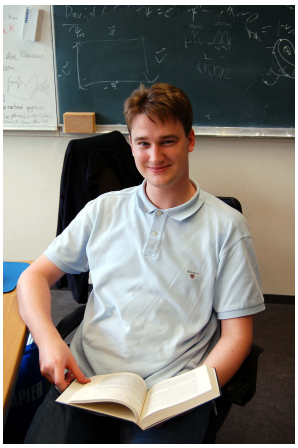
Benjamin H. F. Jurke

Curriculum Vitae



Contact

Max-Planck-Institut für Physik
(Werner-Heisenberg-Institut)
Föhringer Ring 6
80805 München, BY
Germany

Office: Room 342, 2nd floor

Phone: +49 (0) 89 / 323 54-406
Fax: +49 (0) 3212 / 132 93 83

eMail: mail@bjurke.net
bjurke@mppmu.mpg.de

Homepage: http://www.bjurke.net

Education

05/2008– *Doctoral Studies: Theoretical Physics*
Max-Planck-Institut für Physik, München, BY, Germany
Int. Max Planck Research School (IMPRS) on Elementary Particle Physics
Degree in preparation: ***Dr. rer. nat.*** (≈Ph.D.); expected Summer 2011
Advisors: Priv.-Doz. Dr. Ralph Blumenhagen, Prof. Dr. Dieter Lüst

10/2002–05/2008 *University studies: Mathematics*
Universität Bielefeld, Bielefeld, NRW, Germany
Degree received: ***Diplom-Mathematiker*** (≈M.Sc.); May 30, 2008
Thesis: *Dimensional Reduction of Spin(7)-Instantons*; Advisor: Hsch.-Doz. D.Phil. Kim A. Frøyshov

10/2002–07/2007 *University studies: Physics*
Universität Bielefeld, Bielefeld, NRW, Germany
Degree received: ***Diplom-Physiker*** (≈M.Sc.); July 13, 2007
Thesis: *Semi-Realistic Orbifold Compact. of Heterotic Strings*; Advisor: Prof. Dr. Reinhart Kögerler

08/1994–06/2002 *High school*
Ratsgymnasium Wiedenbrück, Rheda-Wiedenbrück, NRW, Germany
Einstein-Gymnasium, Rheda-Wiedenbrück, NRW, Germany
Degree received: ***Abitur***; June 13, 2002 (skipped one grade)

08/1990–07/1994 *Primary school*
Johannisschule, Rheda-Wiedenbrück, NRW, Germany

Employment (Teaching)

05/2010–08/2010 Scientific Assistant (Tutor), LMU Munich, BV, Germany
Assisted Lectures: *T3p: Electrodynamics for Bachelors plus* (SS 2010)

10/2007–02/2008 Scientific Assistant (Tutor), Universität Bielefeld, NRW, Germany
Assisted Lectures: *Theoretical Physics I: Mechanics and Electrodynamics* (WS 2007/08)

10/2006–09/2007 Student Assistant (Tutor), Universität Bielefeld, NRW, Germany
Assisted Lectures: *Mathematical Methods for Physicists* (WS 2006/07),
Introduction to the Methods of Theoretical Physics (SS 2007)

Research interest

My work is focussed on the topics of quantum gravity and elementary particle physics, in particular following the general approach via string theory. Aside from the fundamental implications for the microscopic building blocks of our world, I particularly appreciate the general interplay between geometry, topology and physics found in those subjects.

Particular fields of interest for further research:

- Type-IIB model building and F-theory GUTs,
- Non-perturbative aspects of string and M-theory.
- Mathematical aspects of toric geometry and computational tools.

Conferences, Workshops & Talks

workshop *2nd Cosmology Day*; Bielefeld, April 26–27, 2007.

workshop *Frontiers in Perturbative Quantum Field Theory*; Bielefeld, June 14–16, 2007.

conference *Strings 2007*; Madrid, June 25–29, 2007.

workshop *Mathematical Challenges in String Phenomenology*; Vienna, October 6–10, 2008.

seminar *Würzburg GK-Seminar*; Würzburg, January 8, 2009
invited talk: *"String Theory - A general overview and current 'hot' topics"*

workshop *GUTs and Strings*; Hamburg, February 2–5, 2009.

conference *String Phenomenology 2009*; Warsaw, June 15–19, 2009.

workshop *IMPRS Young Scientist Workshop*; Castle Ringberg / Kreuth, July 27–31, 2009.
presented talk: *"F-theory GUTs"*

workshop *GUTs and Strings*; Munich, February 10–12, 2010.

workshop *Strings at the LHC and in the Early Universe*; KITP / Santa Barbara, March 8–April 2, 2010.
additional service tasks of the workshop's Wikispace website

workshop *Fundaments Of Gravity*; Munich, April 12–16, 2010.

conference *String Phenomenology 2010*; Paris, July 5–9, 2010.
presented talk: *"A Computational Tool for Line Bundle Cohomology"*

Publications

[1] R. Blumenhagen, T. Grimm, B. Jurke, T. Weigand: *"F-Theory Uplifts and GUTs"*; *JHEP* 09 (2009) 053; arXiv:0906.0013 [hep-th], 25+4pp., 2009.

[2] R. Blumenhagen, T. Grimm, B. Jurke, T. Weigand: *"Global F-theory GUTs"*; *Nucl. Phys. B* 829 (2010) 325-369; arXiv:0908.1784 [hep-th], 53+6pp., 2009.

[3] R. Blumenhagen, A. Collinucci, B. Jurke: *"On Instanton Effects in F-Theory"*; *to be submitted*; arXiv:1002.1894 [hep-th], 48+5pp., 2010.

[4] R. Blumenhagen, B. Jurke, T. Rahn, H. Roschy: *"Cohomology of Line Bundles: A Comp. Algorithm"*; *to be submitted*; arXiv:1003.5217 [hep-th], 20+1pp., 2010.
Subsequent development and support of the C++ implementation **cohomCalg**.

IT Skills

Programming Languages

Proficient: C/C++, LaTeX, Mathematica, PHP, (X)HTML, CSS
Familiar: Assembler (x86), Maple, (My)SQL
Rudimentary: Java, Python 3, Basic, Pascal/Delphi

Platforms

Proficient: Windows, MS-DOS (x86/-64)
Familiar: Linux/Unix (x86/-64)

Memberships

05/2008–	Max Planck Gesellschaft (MPG), PhD Student Member *Max Planck Society*
07/2002–	Deutsche Physikalische Gesellschaft (DPG) *German Physical Society*

Extracurricular

04/2009–	Service tasks of the MPI Theory Division website
10/2009–	Service tasks of the LMU Mathematical Physics website

Personal Information

Surname, Given Name: Jurke, Benjamin (Helmut Friedrich)

Date and Place of Birth: March 6, 1984 in Rheda-Wiedenbrück, NRW, Germany.

Sex: male ♂

Citizenship: German

Languages spoken: German (native), English (fluent)

Marital Status: Single

July 24, 2010