

Richard Küng

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Personal

Date of birth 25.04.1988

Nationality Austria

Education

- Since Oct. 2012 **Doktoral candidate**, *University of Freiburg*, Germany.
Supervisor: J.-Prof. Dr. David Gross
Thema: *Ill-conditioned estimation problems in quantum mechanics and applied math*
- 2011–2012 **Master in Physics**, *ETH Zürich*, Switzerland, *Grade: 6.0 (top of my class)*.
Master Thesis: *Calculating and Bounding POVM norm constants*
Supervisor: Prof. Dr. Matthias Christandl (Institute for Theoretical Physics, ETH Zürich)
- 2007–2011 **Bachelor in Interdisciplinary Sciences**, *ETH Zürich*, Switzerland, *Note: 5.44*.
Bachelor Thesis: *An RPMD Approach to the Tunneling Splitting*
Supervisor: Dr. Stuart Althorpe (Department of Chemistry, University of Cambridge),

Research Project: *RIPless compressed sensing from anisotropic measurements*
Supervisor: Dr. David Gross (Institute for Theoretical Physics, ETH Zürich, CH).

Experience

Teaching

- since 2012 **Teaching Assistant**, *University of Freiburg*, Germany.
Subjects taught: Classical Mechanics, Electrostatics, Electrodynamics
- 2009–2011 **Teaching Assistant**, *ETH Zürich*, Switzerland.
Subjects taught: Physical Chemistry, Quantum Chemistry, Partial Differential Equations (excellent evaluations for the latter).
- 2010, 2011 **Tutor**, *VCS (Chemistry students society at ETH Zürich)*, Switzerland.
Repetition and exam preparation courses in mathematics (excellent evaluation).

International

- 2007–2012 **Bachelor and Master Studies**, *ETH Zürich*, Switzerland.
- 2010 **Erasmus Exchange Project**, *University of Cambridge*, United Kingdom.
Visiting researcher in the group of Dr. Stuart Althorpe (theoretical chemistry)
- July 2012 **Visiting researcher in the group of Prof. Jens Eisert**, *Berlin*, Germany.

Miscellaneous

- 2006–2007 **National Service**, *Betriebsseminar Linz*, Austria.
- 2006–2009 **Organisation Member for International Conferences**, *DEXA society*, Austria.
DEXA 2006 in Krakow (Poland), DEXA 2007 in Regensburg (Germany), DEXA 2008 in Turin (Italy), DEXA 2009 in Linz (Austria).

Social Activities

- 2004–2006 **Student Representative**, *BG/BRG Freistadt*, Austria.
- Class Representative: elected representative of the pupils in my class (2004–2006),
 - Head Boy: elected representative of all 500 pupils of my school (2005–2006).
- 2001–2006 **Organisation of various extracurricular activities**, *BG/BRG Freistadt*, Austria.
- 2001–2006: Founding and annual organisation of my school's soccer tournament,
 - 2003: Organisation of a ball of my school,
 - 2005: Organisation of my school's prom.

Awards and Distinctions

- 2006 **Austrian Matura with Distinction**, *BG/BRG Freistadt*, Austria, 2006.
top of my class, grade: 1.0 (grading scale: 1.0, 1.1, ..., 5.0).
- 2012 **Master of Physics with Distinction**, *ETH Zürich*, Switzerland, 2012.
top of my class, grade: 6.0 (grading scale: 6.0, 5.9, ..., 1.0).
- 2013 **Willi-Studer-Preis**, *ETH Zürich*, Switzerland, May 2013.
Granted to the top student in every class.

Languages

- German Mother tongue
- English Academic IELTS level: 8.5
- Latin Latin proficiency certificate
- Spanish B1 (Austrian Matura level which is equivalent to language level B1)
- French Language level A2
- Ancient Greek Course I/III at University of Zürich, 4 ECTS (grade: 5.5)

Publications and Presentations

Publications

- R. Kueng and D. Gross, *RIPless compressed sensing from anisotropic measurements*, arxiv.org/abs/1205.1423
(to appear in *Linear Algebra and its Applications*, DOI:10.1016/j.laa.2013.04.018)
- D. Gross, F. Krahmer, R. Kueng, *A Partial Derandomization of PhaseLift using Spherical Designs*, arxiv.org/abs/1310.2267
(submitted to *Journal of Fourier Analysis and Applications*)

Presentations

- *Stabilizer states are complex projective 3-designs*, presentation at the annual meeting of the DPG, Hannover (Germany), March 2013.