Clemens **Kurzenberg**

Master of Physics

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University Education

University of Rostock

Rostock, Germany

BSc & MSc Physics

Oct. 2012 – Sep. 2017

- **Bachelor thesis:** *„Numerical Solution of the Gross-Pitaevskii Equation"* for the case of an excitonic Bose-Einstein condensate in the group of Prof. Dr. H. Stolz
  grade for thesis: 1.2, overall grade: 2.6
- **Master thesis:** *„Fluorescence Spectra of Rydberg p-Excitons"* in $\mathrm{Cu_2O}$ in the group of Prof. Dr. S. Scheel
  grade for thesis: 2.9, overall grade: 2.3
- Aquisition of knowledge in numerous fields of physics and mathematics, e.g. **quantum optics**, **solid-state physics**, **numerics**, optical fibres, electronics, classical and quantum mechanics, …
- Aquisition of soft skills like working with LaTeX, dealing with scientific data and documents, teaching physics and mathematics, preparing presentations, …

Work Experience

iSM Secu-Sys AG

Rostock, Germany

Software Engineer

Dec. 2017 – …

- **Identity Provider** (OpenID Connect) in C#

Schauvorlesung der Physikstudenten

Rostock, Germany

Stagecraft, Experiments, Audio Engineering, Screenwriting

Oct. 2012 – …

- Experience in teaching physics, screenwriting, audio engineering and designing stage experiments
- Participation in local events and competitions
- Awarded in 2016: *Rostocker Kommunikationspreis*

University of Rostock, Physics Intitute

Rostock, Germany

Research Practice

Apr. 2016 – Sep. 2016

- Working with lab equipment and scientific data
- Topics: Electromagnetic Waves in **Coax Cables**, **Femtosecond Laser Pulses**, **Nonclassicity** of Light (homodyne Detection), **Quantum Ground State** of Electromagnetic Fields, **Diode Lasers**

University of Rostock, Physics Institute

Rostock, Germany

Student Assistent

various timespans

- **Tutor** on theoretical physics

University of Rostock, IT Institute

Rostock, Germany

Student Assistent

Dec. 2012 – Apr. 2013

- Maintenance of **AI software** for the *GRK MuSAMA* project
- C++ Software to detect activity inside a sensoric room

School

Gymnasium Carolinum

Neustrelitz, Germany

Abitur

Aug. 2004 – Jun. 2012

- **Grade:** 1.5
- Participation in a photography project initiated in collaboration with Müritz-Nationalpark
- Participation in the project *Schülersozialdienste für Schüler – Gesunde Schule – Catering Carolinum*

Skills

Science	**quantum optics**, **solid-state physics**, **numerics & simulation**, working with scientific data, electronics, electro dynamics, quantum electro dynamics, atomic physics, cluster physics, molecular physics, mechanics, thermodynamics, relativity, renewable energy sources, atomic physics, optical fibres
Programming	Very good knowledge of **C/C++** and **Haskell** Good knowledge of GNU/Octave, bash, C# und Lua Basic knowledge of Prolog, Perl, asm, Ruby, Lisp, Java, PHP
Applications	Very good knowledge of LaTeX(text documents), Mercurial & Git (versioning), zsh (shell), Darktable & Gimp (image manipulation), nginx (web server) Good knowledge of Blender (3D graphics), dovecot & postfix (email server)
IT	**GNU/Linux**, Gentoo, system administration, network administration, computer hardware Basic knowledge of micro-controller programming and FPGA programming
Languages	**German** (mother tongue), **English** (fluent), Japanese (3 years), Latin (school)
Driver Licence	Class B in Germany
Hobbies And Interests	Digital and analog **photography**, polaroid, **programming**, guitar, ukulele, music theory, modern **literature**, writing short stories und poetry, linguistics, Japanology, modern philosophy, **shipping**, plastic models, tabletop games

Publications

Numerical Solution of the Gross-Pitaevskii Equation

University of Rostock

Bacholor thesis — *Aug. 2015*

- **Adviser:** *Dipl.-Phys. S. Sobkowiak* (University of Rostock, solid-state physics)
- **2nd Adviser:** *Prof. Dr. rer.nat.habil. H. Stolz* (University of Rostock, solid-state physics)
- Calculation of the dynamics of excitons in a Bose-Einstein condensate inside a trap
- Designing a program in Haskell to solve the equations of motion
- Grade: 1.2

Fluorescence Spectra of Rydberg p-Excitons

University of Rostock

Master thesis — *Sep. 2017*

- **Adviser:** *Dr. P. Grünwald* (University of Rostock, quantum optics in macroscopic systems)
- **2nd Adviser:** *Prof. Dr. S. Scheel* (University of Rostock, quantum optics in macroscopic systems)
- Theoretical calculation of optical properties of excitons in $\mathrm{Cu_2O}$, esp. fluorescence and absorption spectra
- Unification of a semiconductor-optical and a quantumoptical description
- Numerical calculations with GNU/Octave
- Grade: 2.9