



Hans Harhoff Andersen

Curriculum Vitae

Education

- 2011–2015 **PhD in Physics**, *Aarhus University*, Aarhus, Denmark.
Worked as a PhD student in the group of prof. Michael Drewsen at the Department of Physics and Astronomy. My research focused on Cavity Quantum Electrodynamics specifically Cavity Cooling of single ions and optomechanics with ensembles. The work is a collaboration between prof. Drewsen and prof. Isaac Chuang, Massachusetts Institute of Technology (MIT). I have visited MIT twice to do experiments; for 10 months in 2010–2011 and for three months in 2012.
- 2010–2013 **Master of Science in Physics**, *Aarhus University*, Aarhus, Denmark.
My master studies are closely related to my PhD studies and my master of science degree is a part of my PhD degree.
- 2007–2010 **Bachelor of Science in Physics**, *Aarhus University*, Aarhus.
Bachelor of science in physics with course package in mathematics.
- 2003–2006 **High School**, *Viby Amtsgymnasium og HF*, Aarhus, Denmark.
Mathematical line
- 2002–2003 **10th grade**, *Samsø Efterskole*, Samsø, Denmark.
Sailor line
- 1992–2002 **Primary School**, *Elise Smiths Skole*, Aarhus, Denmark.

PhD thesis (2015)

- title *Cooling and Manipulating Ions in Traps with Integrated Optical Cavities.*
supervisor Michael Drewsen

Master thesis (part A progress report) (2013)

- title *Cavity Cooling of Single and Ensembles of Ions.*
supervisor Michael Drewsen

Bachelor thesis (2010)

- title *Cooling of rotational degrees of freedom for molecules with InP diode laser.*
supervisor Michael Drewsen

Conferences and schools

- 2014 **CCQED Final Meeting**, Aarhus, Denmark, network meeting.

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- 2013 **International School of Physics "Enrico Fermi"**, *Ion Traps for Tomorrow's Applications*, Varenna, Italy, Summer school.
- 2013 **11th EUROPEAN CONFERENCE ON ATOMS, MOLECULES AND PHOTONS (ECAMP11)**, Aarhus, Denmark, Conference.
- 2013 **Nordic Physics Days**, Lund, Sweden, biennial meeting.
- 2012 **Quantum and Non-Linear Optics**, Sandbjerg, Denmark, Summer school.
Award for best poster
- 2012 **Introduction to circuit and cavity QED**, *A school of the CCQED ITN network*, Les Houches, France, Winter school.
- 2010 **Danish Physical Society Annual Meeting**, Nyborg, Denmark, Annual meeting.

Experience

Vocational

- 2015–2016 **Postdoc**, *Department of Physics and Astronomy*, Aarhus, Denmark.
I work as a postdoc in the group of prof. Michael Drewsen. I am in charge of a separate experiment with laser cooled, trapped ions that I have built as part of my PhD studies.
- 2011–2015 **Instructor (TA)**, *Department of Physics and Astronomy*, Aarhus, Denmark.
As a part of my PhD program I worked as a teacher's assistant for the undergraduate courses in Physics.
- 2008–2011 **Show physicist**, *Fysikshow Aarhus, Aarhus University*, Aarhus, Denmark.
Showing physics experiments for high and primary school students to increase interest in Science and recruit students for Physics.
Conferences:
 - Show Physics 09.
 - Annual meeting of Science shows in Denmark.
- 2008 **Mail man**, *Post Danmark*, Aarhus, Denmark.
- 2006–2007 **Dairy Worker**, *Tholstrup Cheese (now Arla)*, Gjesing, Denmark.

Miscellaneous

- 2012 **Workshop course**, *Aarhus University*, Aarhus.
One week metalworking course.
- 2011 **Managing Hazardous Waste**, *Massachusetts Institute of Technology*, online course.
- 2006 **Future Week workshop 2006**, *UNF*, Aalborg, Denmark.
Workshop for high school students with a focus on Nanotechnology.
- Tutor**, *Mat/Fys-Tutorgruppen*, Aarhus, Denmark.
As a tutor (mentor) for the new students at Aarhus University I helped write and maintain a website for students at the Faculty of Science.

Languages

- Danish **Native speaker**
- English **Fluent**
- German **Basic**
- French **Basic**

I have lived for 13 months in Cambridge, Ma

Computer skills

Programming

PYTHON **Expert**, *Extensive experience with Python for hardware control, data collection, data analysis, visualization, and presentation. Experience with numpy, scipy, matplotlib, sympy.*

MATLAB **Expert**, *Extensive experience for data analysis and visualization. Instructor on a course in MATLAB.*

VHDL **Beginner**, *Experience from a class on digital systems design.*

Other **Some experience**, *SQL, C, Lisp/Scheme, Bash, JavaScript.*

Web design

Web design HTML, CSS, PHP, ASP

Other

Science Applications MATLAB, Mathematica, Easyplot

System administration Debian, Ubuntu, Windows, LAMP-stack

Graphics Inkscape, Gimp, Blender, TikZ

Office MS Office, LibreOffice.org, L^AT_EX

Design Autodesk Inventor

Additional

Electronics **Some experience.**

design Experience in designing and assembling circuits for experimental equipment.

Engineering **Some experience.**

As an experimental physicist I designed, constructed, and tested a number of experiments. Experience with mechanical work, vacuum systems, optics, and lasers.

Interests

Taekwondo I currently have a red belt in Taekwondo.

Traveling I enjoy traveling and have visited contries including the United States, Vietnam, Cambodia, Thailand, Poland, Switzerland, France, Spain, the Netherlands, United Kingdom, Germany, Austria, and Sweden.