

**Prof. David B. Haviland**

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**Birth date:** July 22, 1961

**Citizenship:** United States of America. Permanent residency in Sweden

**Family:** Wife, Elisabeth Almgren (Swedish Citizen), and two daughters (Dual Citizens)  
 Linnea Haviland (Born 7/90) Vendela Haviland (Born 12/91).

**Education & Employment:**

BS in Physics	Union College	1979-1983
Fulbright Scholar	University of Göttingen, Germany	1983-1984
Ph.D in Physics	University of Minnesota	1984-1989
Post Doc, Docent, Lektor	Chalmers University of Technology	1989-1997
Prof. of Nanostructure Physics	Royal Inst. of Technology (KTH)	1997-Present

**Scientific Interests:**

My interests lie in the basic physics and applied physics of mesoscopic condensed matter. Presently we are developing experimental and theoretical methods to probe nonlinear dynamical systems by measurement and analysis of intermodulation (frequency mixing). This latter work has emerged from fundamental studies of quantum limited amplification and vacuum noise squeezing at microwave frequencies, and evolved in to breakthrough development for Atomic Force Microscopy. I also contribute in the developing field of circuit quantum electrodynamics with work on Josephson junction chains, and with the adaptation of nanofabrication technology for applications in cell biology.

**Publications and Presentations Patents:**

113 publications in refereed scientific journals  
 118 talks given at scientific meetings, colloquium, seminars  
 7 public and popular science lectures  
 2 patents

For a full list of publications and presentations see:

<http://www.nanophys.kth.se/nanophys/staff/haviland/index.htm>

**Prizes, Honors, Societies:**

Wallmarkska prize 2008 – for contributions to Mesoscopic Physics.  
 Member Swedish Royal Academy of Sciences, class for Physics, 2011-present  
 Fulbright Scholar, 1983-9184  
 Phi Beta Kappa society – dedicated to liberal learning, member since 1983  
 American Physical Society, 1985 - present

**Scientific advisor to PhD's students.**

1. Danel Forchheimer – PhD. expected May 2013
2. Daniel Platz – PhD expected Oct. 2011
3. Adem Ergul – Lic June 2009, PhD expected Nov. 2011
4. Erik Tholén – PhD Dec. 2009
5. Jochen Walter – Licenciante Nov. 2004, Ph.D. Nov. 2006
6. Silvia Corlevi – Licenciante Oct. 2004, , Ph.D. June 2006
7. Jonas Rundqvist – Licenciante Feb. 2003, Ph.D. Dec. 2005
8. Mattias Urech – (w/ Vlad Korenivski) Lic. Feb. 2001, Ph.D. March 2006
9. Jan Johansson – ( w/ Vlad Korenivski) Lic. Dec. 2000, PhD. Jan 2004
10. Peter Ågren – Lic. June 2000, Ph.D. Oct. 2002
11. Karin Andersson – Lic. Jan. 2000, Ph.D. Sept. 2002
12. Chi Dong Chen – (w/ Per Delsing, CTH) Ph.D. 1994

**Scientific advisor to Masters Students**

1. Vivien Schuler, 2010
2. Daniel Platz, 2007
3. Adem Ergül, 2007
4. Fabian Gregris, 2006
5. Evelyene Doherty, 2006
6. Frank Weber, 2005
7. Erik Tholen, 2005
8. Jochen Walter, 2001
9. Jonas Rundqvist, 2000

**Scientific advisor to Post Docs**

1. Volker Schollmann (Phillips Research)
2. Michio Watanabe (NEC basic Research Labs, Tskuba Japan)
3. Wiebke Guchiard (Université Joseph Fourier-CNRS, Grenoble)
4. Devrim Pesen (Izmir University, Turkey)
5. David Shäffer (ABB Corporate Reserach)
6. Carsten Hutter (Micronic MyData)

**Courses taught:**

Thermal, Statistical and Modern Physics, 2nd year Computer Science Students.  
 Modern Physics, 2nd year Physics students.  
 Microcosmic Physics, 2nd year Computer Science Students.  
 Mesoscopic Physics, advanced undergraduate course  
 Quantum Fluctuations and Dissipation, (team teaching) graduate course.  
 Introduction to Electron Beam Lithography, graduate course.  
 Introduction to Scanning Probe Microscopy, graduate course.  
 Advisor for several undergraduates in their degree project.

**Director and Scientist, Albanova Nano-Fabrication Laboratory:**

I have coordinated three large grant proposals involving several faculty members, which were funded by the Wallenberg Foundation (8M SEK in 1998, and 10M SEK in 2001, 35M SEK 2012). With this money we have built up a first class, Nanofabrication facility at Albanova which presently serves about 50 graduate students from Physics, Microelectronics, Chemistry and Biotechnology, at both KTH and Stockholm University. I have invested a great deal time and energy in to the management, graduate student training, and technical workings of this laboratory.

**Committees, Coordination and other Commissions of trust:**

Coordinator, EU Project SCOPE (FET-Open) '08-'11  
VR committee for Technical Physics, member '05, chair '06, '07  
Management committee, COST network in Mesoscopic Physics, 99-02  
Board Member, leadership group, Dept. of Physics / Appl. physics, KTH, 97 - pres.

**Principle Investigator for International Collaborations (funded projects):**

EU project SCOPE (PI, coordinator, '08-'11)  
EU project SQUBIT and SQUBIT-2 (PI, member, 99-05)  
EU project SETamp (PI, member, 97-00)  
EU project CHARGE (PI, coordinator, 96-00)

**Principle Investigator for Swedish national grants (funded projects):**

VR: Intermodulation in microresonators..., (PI, 08-11)  
Wennergren Foundation: Sabbatical support, one year at UMASS, Amherst, MA, USA  
VR: Quantum Phase Transitions and QED in 1D JJ arrays (PI, 06-08)  
SSF: Center for Nanodevices and Quantum Computing (PI, member, 02-07)  
SSF: framework grant ,Magneto-Electronic Nano-Device Physics (PI, coord., 02-07)  
VR: Nano-patterned proteins on a conducting substrate (PI, 01-03)  
VR: Fund. Investigation Many Body Elect. Transport w/ Coulomb Int. (PI, 98-04)  
Göran Gustafsson equipment grants: (PI, 1997 and 1999)  
TFR: Coulomb Blockade in Non-Tunnel-Junction Nanstructures (PI, 00-03)  
SSF graduate school in Quantum Devices (97-02)

**Reviews and academic evaluations:**

Review work for scientific journals, PRL, PRB, APL, JAP, Nature Phys. ...  
Opponent or member of thesis committee, typically 1-3 times per year.  
Review for academic positions, typically 1-3 times per year.  
Review of proposals, EU, Finish Academy, Isreal Sci. Found. VR, etc.  
Review for prestigious prizes, occasionally.