

## CURRICULUM VITAE

Name: Antti-Pekka Jauho

Date of birth: February 2, 1952

Citizenship: Finland

Marital status: Married to Eva Irene Jauho, 4 children

Permanent address: Department of Micro and Nanotechnology, DTU Nanotech, Technical University of Denmark (DTU), Bldg. 345 East, DK-2800 Kongens Lyngby, Denmark

Phone: +45 45 25 63 35 (direct); +45 45 25 57 00 (switch-board); +45 51 53 76 84 (mobile)

Fax: +45 45 88 77 62

E-mail: Antti-Pekka.Jauho@nanotech.dtu.dk

### Employment record

- Center Leader, Danish National Research Foundation Center-of-Excellence CNG: Center for Nanostructured Graphene, 2012 – present
- Finland Distinguished Professor (FiDiPro), 2007 – 2010
- Professor in Theoretical Nanotechnology, DTU, June 15, 2003 – present
- Research Professor (Theoretical Semiconductor Physics), DTU, June 15, 1998 – June 14, 2003
- Group Leader at MIC (presently DTU Nanotech), 1992 – present
- Hyberdrola Foundation Guest Professor, Universidad Autonoma, Madrid, Spain, 1 September 1997 – 30 November 1997
- Nordic Associate Professor ("Nordisk lektor"); Nordita, 1992 – 1993
- Senior Research Scientist; H.C. Ørsted Institute, Physics Laboratory, Copenhagen University; 1991-92
- Assistant Professor ("adjunkt"); H.C. Ørsted Institute, Physics Laboratory, Copenhagen University; 1987-1991
- Senior Research Fellow ("senior stipendiat"); H.C. Ørsted Institute, Physics Laboratory, Copenhagen University; 1985-87
- Scientific visitor; Institute for theoretical physics, Chalmers Technical University; 1984-85
- Post-doctoral fellow; Nordita; 1981-84
- Graduate Research Assistant; Physics Department, Cornell University; 1980-81
- Scientific visitor; Nordita; 1979-80
- Graduate student, Physics Department, Cornell University; 1976-79
- Research student, Low Temperature Laboratory, Helsinki University of Technology; 1973-76
- Teaching assistant in mathematics, Department of General Studies, Helsinki University of Technology; 1972-73
- Computer programmer; Imatran Voima OY, Helsinki, 1972

### Academic Degrees

- **M.Sc.**, in Technical Physics (with honors), Helsinki University of Technology, August 1975. Thesis title: "An investigation of the magnetism of TbES below 1 K using the Faraday rotation"
- **Lic.Tech.**, in Theoretical Physics (with honors), Helsinki University of Technology, December 1979. Thesis title: "Semiclassical model for dynamical low energy electron diffraction - theory and an application"
- **Ph.D.**, in Theoretical Physics, Cornell University, May 1982. Thesis title: "Theoretical studies on electronic scattering in solids: semiclassical low energy electron diffraction and the resonant level model in a strong electric field"

## Memberships and Academic Honors

- Member of American Physical Society (APS); Danske Fysiske Selskab (DFS)
- Foreign Member of The Finnish Academy of Science and Letters (2003)
- Member; IEEE Nanotechnology: Technical Committee on Simulation and Modeling (TC-10) (2008 – present)
- Outstanding Referee of the American Physical Society (2010)

## International Invitations

- Invited Lecturer; Advanced study institute on electronic structure of new materials, Sweden and Finland, August 6 – 31, 1984.
- Invited Lecturer; Advanced study institute on electronic structure of new materials, Helsinki, Finland, June 3 – 8, 1985.
- Plenary Talk; Annual meeting of the Finnish Physical Society, Tampere, Finland, February 6 – 8, 1986.
- Invited Lecturer; Workshop on quantum transport in nanostructures, San Miniato, Italy, March 1 - 7, 1987.
- Invited Lecturer; Advanced summer school on microstructures (physics and technology for VLSI), Espoo, Finland, June 8 – 12, 1987.
- Invited Lecturer; Femtosecond physics in semiconductors, Phoenix, AZ, U.S.A., December 9 – 11, 1987.
- Invited Speaker; Condensed Matter Division of the European Physical Society, Budapest, Hungary, April 9 – 12, 1988.
- Invited Lecturer; Summer School on Semiconductor Physics, Espoo, Finland, June 4 – 9, 1989.
- Invited Speaker; Sixth International Conference on Hot Carriers in Semiconductors, Scottsdale, AZ, U.S.A., July 23 – 28, 1989.
- Invited Lecturer; Winter School in Modern Physics, The Danish Physical Society, H.C. C. Ørsted Institute, January 29 – 30, 1990.
- Invited Lecturer; Physics of granular nanoelectronics, NATO Advanced Study Institute, Il Ciocco, Barga, Italy, July 21 – August 4, 1990.
- Invited Speaker; Topical Meeting on Semiconductor Physics, Danish Physical Society, Hørsholm, Denmark, June 20, 1991.
- Invited Speaker; Workshop on Granular Nanoelectronics, Champaign, Illinois, USA, May 15 – 17, 1991.
- Invited Speaker; Quantum Theory of Solids-1 Symposium, Århus, September 18, 1991.
- Invited participant; Nobel Symposium on "Low dimensional systems", December 4 – 7, 1991, Göteborg, Sweden.
- Invited Lecturer; Nordic Summer School on Mesoscopic Physics, Trondheim, Norway, June 16 – 20, 1992.
- Keynote speaker; Miniworkshop on resonant tunneling, Gothenburg, Sweden, April 19 – 20, 1993.
- Invited lecturer; Summer School on Quantum Statistical Mechanics (QUAST), Rostock, Germany, August 25 – September 5, 1993.
- Invited speaker; Strategic Meeting, ESPRIT PHANTOMS network, Würzburg, Germany, October 18 – 20, 1993.
- Invited speaker; First International Workshop on Nonequilibrium Physics at Short Time Scales, Rostock, Germany, January 10 – 12, 1994.
- Invited speaker; Workshop on Quantum Devices, Prescott, AZ, U.S., March 16 – 18, 1994.
- Invited speaker; International Symposium on Common Themes in Mesoscopics and Quantum Optics, Sjundeå, Finland, April 6 – 8, 1994.
- Invited speaker; International workshop on Tunneling Times, La Laguna, Canary Islands, Spain, May 23 - 27, 1994.

- Invited speaker; International Conference on Quantum Transport in Nanostructures, Trieste, Italy, June 14 – 30, 1994.
- Invited speaker; Nato Advanced Study Institute on “Quantum Transport in Ultrasmall Devices”, Il Ciocco, Italy, July 17 – 30, 1994.
- Invited Lecturer; International Summer School on Nanoscale Material Physics, Helsingør, Denmark, August 22 – 29, 1994.
- Invited speaker; Fourth International Workshop on Nonlinear Optics and Excitation Kinetics in Semiconductors (NOEKS-4), Gosen bei Berlin, Germany, November 6 – 10, 1994.
- Invited speaker; Second Workshop on Nonequilibrium Physics at Short Time Scales, Rostock, Germany, January 12 – 14, 1995.
- Invited Lecturer; Dynamics of Simple Quantum Systems, Nordic Research Symposium, Sandbjerg, Denmark, May 11 – 17, 1995.
- Invited Lecturer; Nato Advanced Study Institute on “Frontiers in Nanoscale Science for Micron/Sub-micron Devices”, Kiev, Ukraine, August 16 – 27, 1995.
- Invited speaker; Gothenburg Mesoscopic Days, Gothenburg, Sweden, September 14 – 15, 1995.
- Invited participant; Nobel Symposium on “Heterostructures in Semiconductors”, Årild, Sweden, June 4 – 8, 1996.
- Invited speaker; ESPRIT-Workshop & Euroconference on “Strongly Correlated Electrons in Mesoscopic Structures”, Torino, Italy, September 2 – 28, 1996.
- Invited speaker; International Semiconductor Conference (CAS-96), Sinaia, Rumania, October 9 – 12, 1996.
- European Union Guest Lecturer; Four-hour lecture series on “Transport phenomena in mesoscopic semiconductor structures”, Low Temperature Laboratory, Helsinki University of Technology, Espoo, Finland, November 25 – 29, 1996.
- Invited speaker; Low Temperature Physics Symposium, Chalmers University of Technology, Göteborg, Sweden, December 5 – 6, 1996.
- Invited participant; Nato Forum 1997, “Nanoscale Science and Technology”, Toledo, Spain, May 11 – 16, 1997.
- Invited speaker; 16th General Conference of the EPS Condensed Matter Division, Leuven, Belgium, August 25 – 28, 1997.
- Invited lecturer; “Optoelektronik mesoskopischer Halbleiter” (Optoelectronics of mesoscopic semiconductors), Marburg, Germany, June 9 – 12, 1998.
- Invited lecturer; “The 8th Jyväskylä International Summer School: Physics of Nanostructures and Quantum Devices”, Jyväskylä, Finland, August 3 – 8, 1998.
- Plenary speaker; “Uppsala Summer School”, Uppsala, Sweden, August 27 – 29, 1998.
- Invited speaker; Max-Planck-Gesellschaft Workshop on “Growth and transport properties of low-dimensional semiconductor quantum structures”, Ringberg Castle, Germany, February 10 – 13, 1999.
- Invited speaker; “XVI Sitges Conference on Statistical Mechanics”, Barcelona, Spain, June 7 – 11, 1999.
- Invited speaker; “Cerion Workshop”, Ottawa, Canada, August 8 – 10, 1999.
- Invited speaker; “The 8th International Conference on Hopping and Related Phenomena”, Murcia, Spain, September 7 – 10, 1999.
- Invited speaker; “Kadanoff-Baym equations - Progress and Perspectives for Many-Body Physics”, International Workshop at Rostock, Germany, September 20 – 24, 1999.
- Distinguished guest; Mesoscopic Physics of Normal Conductors and Superconductors - Center of Advanced Studies 1999/2000, Norwegian Academy of Sciences, Oslo, June 5 – 16, 2000.
- Invited speaker; “High-field and Quantum Transport in Semiconductors”, 234. WE-Heraeus Seminar, Rostock, Germany, May 28 – June 1, 2000.
- Keynote speaker; “Frequency dependent quantum transport”, TMR Advanced Research School, Hamburg, Germany, September 3 – 9, 2000.
- Invited speaker; “The 11th ECMI (European Consortium for Mathematics in Industry) Conference”, Palermo, Italy, September 26 – 30, 2000.

- Invited speaker; Advanced Research Workshop on Molecular Electronics, Maratea, Italy, June 17 – 22, 2001.
- Invited speaker (Plenary Talk); “Euroconference on Asymptotic Methods and Applications in Kinetic and Quantum-Kinetic Theory”, Granada, Spain, September 17 – 21, 2001.
- Invited speaker (Plenary Talk); Annual Meeting of the Finnish Physical Society, Joensuu, Finland, March 14 – 16, 2002.
- Invited speaker; Workshop “Progress in Nonequilibrium Green’s Functions”, Dresden, Germany, August 19 – 23, 2002.
- Invited speaker; Cerion II Workshop, Bilbao, Spain, September 3 – 6, 2003.
- Invited speaker; Nobel Institute of Physics Workshop on Nanoelectromechanical Systems, Gothenburg, Sweden, June 5 – 7, 2004.
- Invited speaker; Engineering Conferences International “Transport Phenomena in Micro and Nanodevices”, Hawaii, October 17 – 21, 2004.
- Invited speaker; “Unsolved problems of noise and fluctuations in physics” (UPoN4-2005), Gallipoli, Italy, June 6 – June 10, 2005.
- Invited lecturer; Niels Bohr Summer Institute, August 15 – 26, 2005, Copenhagen.
- Invited speaker; “Progress in Nonequilibrium Green’s functions III”, Kiel, Germany, August 22 – August 26, 2005.
- Invited speaker; Second International Conference on Transport Phenomena in Micro and Nanodevices, Il Ciocco, Barga, Italy, June 11 – 15, 2006.
- Invited speaker; 15th European Conference on Mathematics for Industry, Madrid, Spain, July 10 – 14, 2006.
- Invited speaker; 384. Wilhelm und Else Heraeus Seminar on “Nonequilibrium Transport of Strongly Correlated Systems: Towards Simulation of Novel Devices”, Bad-Honnef, Germany, January 30 – February 2, 2007.
- Keynote speaker; NTNE 2007 (Nanotech Northern Europe), Helsinki, Finland, March 27-29, 2007.
- Invited speaker (plenary talk): Workshop on Physics-Based Mathematical Models of Low-Dimensional Semiconductor Nanostructures (LDSN), Banff International Research Station (BIRS), Banff, Canada, November 18 – 23, 2007.
- Invited speaker: “200 Years of Condensed Matter Theory in Gothenburg”, Hindås, Sweden, August 31 – September 2, 2007.
- Invited speaker; International Workshop on Nonequilibrium Nanostructures, Dresden, Germany, December 1 – 6, 2008.
- Invited speaker; Advanced Heterostructures and Nanostructures Workshop (AHNW2008), Hawaii, USA, December 7 – 12, 2008.
- Invited speaker; Advanced workshop on “Unifying Themes in Condensed Matter”, Aspen, USA, January 11 – 17, 2009.
- Invited lecturer; First Nordic Workshop on Graphene Science, Uppsala, Sweden, April 20 – 21, 2009.
- Invited lecturer; 10th Nordforsk Nordic Network meeting on Low-dimensional Physics, Å i Lofoten, Norway, August 3 – 7, 2009
- Invited speaker; “Progress in Nonequilibrium Green’s functions IV”, Glasgow, Scotland August 17 – 21, 2009
- Invited speaker; Summer school on Thin Film Physics, Lepolampi, Finland August 26 – 28, 2009.
- Invited speaker; TRNM-09, Levi, Finland, December 7 – 9, 2009
- Invited lecturer; Spring College on Computational Nanoscience, ICTP, Trieste, Italy, May 17 – 27, 2010
- Invited participant; Nobel Symposium on Graphene, Saltsjöbaden, Sweden, May 27 – 29, 2010
- Invited speaker; Carbonhagen Workshop, Copenhagen, November 15 – 16, 2010
- Plenary Speaker, Frontiers of Quantum and Mesoscopic Thermodynamics FQMT 11, Prague, July 25 – 30 2011
- Invited Speaker, International workshop on “Nonlinear spin and charge transport through nanoscopic systems, Mallorca, Spain, 6-9 June 2011

- Invited Speaker, International workshop on Noise and Fluctuations (In honor of Prof. L. Reggiani), Lecce, Italy, November 16-17, 2011
- Plenary Speaker, CECAM workshop on "Computational methods in molecular electronics", Hong Kong, December 2011
- Invited Speaker, Graphene 2012, Brussels, Belgium, April 2012
- Invited Speaker, EMRS Fall Meeting Symposium G (Graphene), Warsaw, Poland, September 2012
- Invited Speaker, WINDS12, Workshop on Innovative Nanoscale Devices and Systems, Hapuna Beach, Hawaii, USA, December 2012
- Invited Speaker, Nanographene2013, Workshop on nanostructured graphene, Antwerp, Belgium, 14-21 May 2013
- Invited Speaker, ISANN2013, International symposium of advanced nanodevices and nanotechnology, Poipu Beach, Kauai, Hawaii, 8-13 December 2013
- Invited Speaker, Vision 2014, Asset Engineering and Management, Stavanger, Norway, April 2 – 3 2014
- Invited Speaker, Graphene 2014, Toulouse, France, May 6 – 9 2014
- Invited Speaker, WINDS 2014, Workshop on Innovative Nanoscale Devices and Systems, Hawaii, USA, November 30 – December 5 2014
- Invited Speaker, TRNM 2015, Levi, Finland, February 9 – 12 2015
- Invited Speaker, PNGF IV, Lund, Sweden, August 17 – 21 2015
- Invited Speaker, CECAM workshop: Open Quantum Systems Computational Methods, Hong Kong, November 30 – December 5 2015

## Other academic activities

### Ph.d examination committees

- External Opponent; Dr. Ing. Thesis "Monte Carlo simulations of III-V semiconductor devices" by Geir Uri Jensen, Norway's Technical University, Trondheim, Norway, October 11, 1989
- External Opponent; Dr. Tech. Thesis "Scattering in resonant tunneling devices, a theoretical study" by Björn Rudberg, Chalmers Technical University, Sweden, February 1, 1991
- External Opponent Dr. Tech. Thesis "Dynamics of tunneling", by Jon Andreas Støvneng, Norwegian Technical University, Trondheim, Norway, February 14, 1991
- External Opponent; Dr. Tech. Thesis "Semiclassical model and properties of resonant tunneling diode", by Hanyu Cheng, Helsinki University of Technology, Espoo, Finland, December 12, 1991
- External Opponent; Dr. Tech. Thesis, "Numerical study of coherent tunneling in a double barrier resonant tunneling device", by Henny Joosten, Tampere University of Technology, Tampere, Finland, December 16, 1991
- External opponent Dr. rer. nat. Thesis, "Properties of Partially Ionized Hydrogen Plasmas in High Electric Fields", by Klaus Morawetz, Universität Rostock, Rostock, Germany, December 16, 1992
- External Opponent; Ph. D. Thesis "Semiclassical noise of composite fermions", by Kasper Astrup Eriksen, NBIfAFG, University of Copenhagen, May 1999
- External Opponent; Ph. D. Thesis "Anomalous transport properties of high  $T_c$ -materials, by Jens Paaske, NBIfAFG, University of Copenhagen, February 2000
- External Opponent; Ph. D. Thesis "Phases and Phase Transitions in Restricted Systems", by Dragos-Victor Anghel, University of Jyväskylä, Finland, May 2000
- External Opponent; Dr. Tech. Thesis "Dynamical Properties of Single-electron Devices and Molecular Magnets", by Teemu Pohjola, Helsinki University of Technology, Espoo, Finland, February 2001
- External Opponent; Ph. D. Thesis "Lateral Superlattices in Commensurate Magnetic Filaments: Electronic Structure, Transport and Optical Properties", by Egidijus Anisimovas, University of Lund, Department of Theoretical Physics, Lund, Sweden May 2001
- External Opponent; Ph. D. Thesis, "Optical properties of localized excitons in semiconductor nanostructures", by Kristján Leósson, Technical University of Denmark, Lyngby, Denmark, January 2002

- External Opponent; Ph. D. Thesis, "Nonlinear Dynamics and Spin-Related Properties of Semiconductor Nanodevices", by David Sanchez, Universidad Autonoma de Madrid, Spain, April 2002
- External Opponent; Ph. D. Thesis, "Non-orthogonality and Electron Correlations in Nanotransport", by Jonas Fransson, Uppsala University, Sweden, October 2002
- External Opponent; Ph. D. Thesis "Ferromagnetically contacted single-wall Carbon nanotubes", by Ane Jensen, Technical University of Denmark, Lyngby, September 2003
- External Opponent; Ph. D. Thesis by Tommy W. Berg: "Quantum Dot Semiconductor Optical Amplifiers", COM, Technical University of Denmark, Lyngby, June 2004
- External Opponent; Ph. D. Thesis, by Rune Shim Jacobsen: "Electro-optic modulation, measurement technique and enhancement", COM, Technical University of Denmark, November 2005
- External Opponent; Ph. D. Thesis by Benny Lassen: "Mathematical Modelling of Low-Dimensional Semiconductor Structures Accounting for Quantum Effects", University of Southern Denmark, December 2005
- External Examiner; Ph. D. Thesis by Thomas Kühn: "Phononic Transport in Dielectric Membranes", University of Jyväskylä, Finland, March 2007
- External Examiner; Dr. Tech. Thesis, by Markku Stenberg; "Quantum coherence and mesoscopic fluctuations", Technical University of Helsinki, Finland, July 2007
- Member of Examination Board; Dr. Tech. Thesis, by Jonas Bylander; "Time-resolved detection of temporally correlated single-charge tunnelling", Chalmers University, Sweden, October 2007
- External Examiner; Dr. Tech. Thesis, by Mika Prunnila; "Single and Many-Band Effects in Electron Transport and Energy Relaxation in Semiconductors", Technical University of Helsinki, Finland, October 2007
- External Opponent; Ph. D. Thesis, by Rafael Sanchez; "Spin and Charge through Driven Quantum Dots and their Fluctuations", Universidad Autonoma de Madrid, Spain, February 2008
- External Opponent: Ph. D. Thesis, by Abbas Zarifi; Aalborg Universitet, Denmark, August 2008
- External Examiner; Dr. Tech. Thesis, by Timo Hyart; "Semiconductor superlattices and THz radiation", University of Oulu, Finland, September 2009
- External Opponent: Ph. D. Thesis, by Marc Puig von Friesen; "Time-dependent many-body perturbation theory, possibilities and limitations", University of Lund, Sweden, May 2011
- External Examiner; Ph. D. Thesis, by Leek Meng Lee; "Theoretical considerations in the application of Nonequilibrium Green's Functions (NEGF) and Quantum Kinetic Equations (QKE) to thermal transport", National University of Singapore, February 2012
- External Examiner; Ph. D. Thesis, by Pertti Myöhänen; "Many-particle theory for time-dependent quantum transport in nanostructures", University of Jyväskylä, Finland, April 2012
- Faculty Opponent; Ph. D. Thesis, by Daniel Midtvedt; "Nonlinear Electromechanics of nanomembranes and nanotubes", Chalmers University of Technology, Sweden, November 2013
- Chair, Examination Board; Ph. D. Thesis, by Anders Mølbjerg Lund; "Theory of few emitter semiconductor nanostructures: Lasing and resonance fluorescence", Technical University of Denmark, February 2014
- External Opponent; Ph. D. Thesis, by Konrad Thomas: "Quantum Transport in Nano-scale Conductors (Entanglement Entropy, Waiting Time Distributions, and Dynamical Coulomb Blockade)", Department of Physics, University of Geneva, Switzerland, December 2014
- External Opponent; Ph. D. Thesis, by Osmo Vänskä: "Theoretical studies of optical transitions in semiconductor quantum structures", School of Electrical Engineering, Department of Micro- and Nanosciences, Aalto University, Espoo, Finland, January 2015

#### **Memberships in expert committees**

- Expert; Appointment Committee for Associate Professorship in Computational Physics, Helsinki University of Technology (1997)
- Expert; Appointment Committee for full Professorship at Technion, Israel Institute of Technology, Dept. of Electrical Engineering (1999)

- Expert; Promotion to full Professorship at Linköping University (1999)
- Expert; Promotion to full Professorship at Linköping University (2000)
- Referee; Promotion to Associate Professorship at Washington State University (2000)
- Expert (Chair); Appointment Committee for Full Professorship in MEMS, Technical University of Denmark (2000)
- Expert; Appointment Committee for Research Professorship in Nanoelectronics, State Research Centre (VTT), Finland (2001)
- Expert; Appointment Committee for Professorship in Applied Physics, University of Jyväskylä, Finland (2001)
- Expert; Prize Committee for the Gustav-Hertz-Preis of the German Physical Society (2001)
- Referee; Promotion to Associate Professorship at University of Akron, Ohio, USA (2001)
- Referee; Professorship (C3) of Theoretical Physics, University of Karlsruhe, Germany (2002)
- Referee; Professorship in Electronics (Semiconductor and Materials Technology), Technical University of Lappeenranta, Finland (2003)
- Referee; Professorship in Experimental Solid State Physics, University of Jyväskylä, Finland (2003)
- Expert; Promotion to full Professorship at Lund University (2003)
- Referee; Professorship (C3) of Theoretical Physics, University of Regensburg, Germany (2004)
- Chairman; Associate Professorship (Lektor) in Condensed Matter Theory, Technical University of Denmark (2004)
- Expert; Assistant Professorship in Theoretical Nanophysics, University of Umeå, Sweden (2004)
- Referee; Professorship (W2) of Theoretical Physics, University of Regensburg, Germany (2005)
- Referee; Professorship (W3) in Computational Materials Physics, Technical University of Berlin, Germany (2005)
- Referee; Promotion to full professorship, Department of Physics, University of Antwerpen, Belgium (2005)
- Expert; Assistant Professorship in Theoretical Nanotransport, Department of Physics, Uppsala University, Sweden (2005)
- Chairman; Associate Professorship (Lektor) in Experimental Nanosystems Engineering, Department of Micro and Nanotechnology, Technical University of Denmark, (2005)
- Chairman; Adjunct Professorship in Nanotechnology, Technical University of Denmark, (2006)
- Chairman; Senior Researcher in Strongly Correlated Systems, The Swedish Research Council, Sweden (2007)
- Referee; Promotion to Reader, Department of Physics, University of Nottingham, UK (2007)
- Referee; Promotion to Regents' Professor, Arizona State University, USA (2008)
- Referee; W2/W3 Position in Theoretical Condensed Matter Physics, Freie Universität Berlin, Germany (2008)
- Member of Assessment Committee; Adjoint Professor in Experimental Condensed Matter and Nanoscale Physics, Niels Bohr Institute, University of Copenhagen, Denmark (2009)
- Referee; Search Committee for Director of Theoretical Nanoelectronics at Forschungszentrum Jülich, Germany (2010)
- Referee; Appointment of fellows for The Academy of Sciences of the Developing World (TWAS), Trieste, Italy (2010)
- Member; Expert panel for assessing the research programs FUGE and NANOMAT, sponsored by the Research Council of Norway (2010)
- Member; Professor appointment committee, Dept. of Applied Physics, Aalto University, Finland (two professorships) (2010)
- Referee; Appointment of Professor in Mathematics (Scientific computing), Lappeenranta Technical University, Finland (2010)
- Chair; Selection Committee for Nordic Fellowships in Condensed Matter Physics, Nordita, Sweden, 2011-2013
- Member; Appointment committee for Full Professor in Condensed Matter Physics, Nordita, Sweden (2011)

- External Assessor: Conferment of Chair Professor title, The University of Hong Kong, PR China (2011)
- Chair; Professorship in Silicon Micro- and Nanotechnology for Sensing and Energy Applications at Dept. of Micro- and Nanotechnology, Technical University of Denmark (2012)
- External Reviewer: Promotion to Associate Professor, Faculty of Engineering, National University of Singapore (2012)
- External Reviewer: Promotion to Full Professor, Department of Physics and Astronomy, University of Delaware, USA (2012)
- External Assessor: Appointment of an Assistant Professor, Nanoscience and Nanotechnology at Chalmers University, Sweden (2012)
- External Reviewer: Promotion to Full Professor, Step 6, Department of Physics, UCSD, USA (2012)
- External Reviewer: Appointment of an Assistant Professor, Department of Applied Physics, Chalmers University, Sweden (2014)
- External Reviewer: Promotion to Associate Professor, Department of Physics and Astronomy, Uppsala University, Sweden (2014)
- Chair: Assessment committee of a Senior Researcher position in "Micro- and Nanomechanical Resonators for Sensor Applications", DTU Nanotech, Technical University of Denmark (2014)

### **Research proposal evaluations**

- Referee; National Science Foundation (USA) (1984)
- Referee; National Science Foundation (USA) (1985)
- Referee; Czechoslovak Academy of Sciences (1991)
- Referee; National Science Foundation (USA) (1993)
- Referee; International Science Foundation (Soros Foundation) (USA) (1993)
- Referee; Statens Naturvidenskabelige Forskningsråd (SNF) (Denmark) (1994)
- Referee; Norges Forskningsråd (NFR) (Norway) (1996)
- Referee; The Israel Science Foundation (1997)
- Program Evaluator; EU Esprit Call 10, Bruxelles, November 3-5, 1997
- Proposal Evaluator; EU INTAS Call 1997, April 1998
- Proposal Evaluator; Grant Agency of the Czech Republic, June 1998
- Referee; Swedish Research Council for Engineering Sciences (TFR), August 1998
- Referee; National Science Foundation (USA) (1999)
- Proposal Evaluator; Research Council of the University of Antwerpen (Belgium), May 1999
- Proposal Evaluator; EU INTAS Call, October 1999
- Referee; Swedish Research Council for Engineering Sciences (TFR), August 1999
- Referee; National Science Foundation (USA) (2000)
- Referee; Austrian Science Fund (FWF) (Austria) (2000)
- Referee: University Grants Committee (Hong Kong) (2000)
- Proposal Evaluator; Grant Agency of the Czech Academy of Sciences (Czech Republic) (2000)
- Proposal Evaluator; Grant Agency of the Czech Republic (2000)
- Referee; Swedish Research Council for Engineering Sciences (TFR), August 2000
- Referee; The Research Council of Norway, October 2000
- Referee; Swedish Research Council (Vetenskapsrådet); August 2001
- Proposal Evaluator; EU INTAS Call, November 2001
- Referee; University Grants Committee (Hong Kong) January 2002
- Referee; National Science Foundation (USA) January 2002
- Referee; The Research Council of Norway, August 2002
- Referee; National Science Foundation (USA) November 2002
- Referee; Center of Advanced Study (CAS), Norway, March 2003
- Referee; Austrian Science Fund (FWF), Austria, August 2003
- Referee; Svenska Vetenskapsrådet (Condensed Matter Section), Sweden, September 2004



- Referee; Engineering & Physical Sciences Research Council, UK, January 2005
- Referee; The Israeli Science Foundation, January 2005
- Referee; Austrian Science Fund (FWF), Austria, February 2005
- Referee; National Science Foundation (NSF), USA, February 2005
- Referee; Research Council, University of Antwerp, Belgium, August 2005
- Referee; The Dutch Research Council (NWO), The Netherlands, September 2005
- Referee; Strategic Platform Proposal(s), Faculty of Science, Gothenburg University, Sweden, November 2005
- Referee; Svenska Vetenskapsrådet (Condensed Matter Section), Sweden, September 2006
- Referee; Science Foundation Ireland, Ireland, February 2007
- Referee; National Science Foundation (NSF), USA, April 2007
- Referee; Swiss National Science Foundation, Switzerland, June 2007
- Referee; Wiener Wissenschafts-, Forschungs- und Technologiefonds (WWTF), Austria, August (2007)
- Referee; Midterm evaluation of Strategic Platform(s), Faculty of Science, Gothenburg University, Sweden, September 2008
- Referee; National University of Singapore, Singapore, October 2008
- Referee; Honkong University of Science and Technology, Area of Excellence Evaluation, February 2009
- Referee; Wiener Wissenschafts-, Forschungs- und Technologiefonds (WWTF), Austria, June 2009
- Referee; Natural Sciences and Engineering Research Council of Canada, January 2010
- Referee; National Science Foundation (NSF), USA, February 2010
- Referee; Research Grants Council (RGC), Hong Kong, February 2010
- Referee; Israel Science Foundation (ISF), Israel, February 2010
- Program Evaluator; European Research Council (ERC), 2010 – 2013
- Referee; European Science Foundation (ESF), 2010 – 2012
- Referee; National Science Foundation (NSF), USA, October 2010
- Referee; Research Foundation Flanders (FWO), Belgium, May 2011
- Referee; Svenska Vetenskapsrådet (Condensed Matter Section), Sweden, September 2011
- Referee; U. S. Dept. of Energy, Office of Science, USA, March 2012
- Referee; European Research Council (ERC): ERC Starting Grant, March 2012
- Referee; NSF DMR Condensed Matter and Materials Theory Program, March 2012
- Referee; European Research Council (ERC) Advanced Grant, August 2012
- External Reviewer; EU FP7 support action MULT.EU.SIM, Barcelona, October 2012
- Referee; European Research Council (ERC) Advanced Grant, May 2013
- Referee; Academy of Finland, "Semiconductor, carbon, and magnetic materials" Review Panel, January 2014

## Others

- Consultant; Laboratory of Atomic and Solid State Physics, Cornell University, October 1984
- Docent; in Theoretical Semiconductor Physics, Helsinki University of Technology, January 18, 1989 (indefinitely)
- Member, Danish Physics Examination Board ("Censorkorps")
- Member; Solid State Advisory Committee, Nordita (1996 – 1999)
- Member; Ph.d Committee ("Ph.d Udvalg"), Technical University of Denmark (1997 – 2008)
- Member; Steering Group for Single-electron Phenomena, Research Project at Danish Institute of Fundamental Metrology, 1998 – 2000
- Associate Editor; Superlattices and Microstructures, 2000 – 2004
- Member; Center Board of the Nanodev strategic research center, Chalmers University, Gothenburg, Sweden, 2003 – 2007

- Member; Center Board of the Research Consortium "CMOS Integrated Carbon-Based Nanoelectromechanical Components", Chalmers University, Gothenburg, Sweden, 2004 – 2007
- Member; Steering Group of NanoDTU, 2004 – 2011.
- Member; Advisory Council, Center of Physics, University of Minho, Portugal, 2014 –
- Member; Rector's Review Panel, DTU, 2012 –

## Research Grants

- 1988; Nato Collaborative Research Grant (with Prof. J. R. Barker and Prof. D. K. Ferry)
- 1989; NorFA grant (140,000 DKr), organization of Nordic Research Symposium
- 1991; NorFA grant (40,000 DKr), organization of Nordic Research Symposium
- 1992; Nordita grant (100,000 DKr), Nordic mesoscopic programme
- 1992; Nato Collaborative Research Grant (with Dr. R. Bertoncini and Prof. D. K. Ferry)
- 1994; EU grant through Phantoms (10,000 ECU), conference organization
- 1995; Nato Grant (1,700,000 BFr), organization of NATO ASI
- 1995; EU grant through Phantoms (10,000 ECU), conference organization
- 1996; INTAS grant (35,000 ECU) (with Prof. A. F. Sadreev)
- 1997; NorFA Research Network Grant ( $3 \times 150000$  NOK) (with Profs. Beenakker, Chao, Galperin, Gudmundsson, Hauge, Jonson, Lindelof, Matulis, Paalanen, Pekola, and Shekter)
- 1999; Nordita Grant (DKK 50,000), organization of Mesoscopic Days IV, May 1999, Denmark
- 2000; NorFA Research Network Grant ( $3 \times 271000$  NOK) (with Profs. Brataas, Chao, Galperin, Gudmundsson, Hakonen, Hauge, Heitman, Jonson, Lindelof, Matulis, and Pekola); Renewal in 2003.
- 2004; Nordita Grant (DKK 80,000), organization of Computational Problems in Physics, June 2005, Finland
- 2004; NorFA Grant (NOK 300,000), organization of Computational Problems in Physics, June 2005, Finland
- 2005; 5 year FTP Grant (Research Council for Technology and Production), DKK 2,456,000 (own share of project QUEST - Quantum dot structures enabling light slow-down and amplification, DKK 14,793,000, main applicant: Prof. J. Mørk, COM, DTU)
- 2007-2010; Finland Distinguished Professor Grant, Academy of Finland; EUR 500,000
- 2008; Norforsk Research Network Grant on Nanospintronics ( $3 \times 300000$  NOK) (with Profs. Canali, Brandbyge, Brataas, Jonson, Eriksson, Ferrer, Yakymenko, Mertig)
- 2012; DNRF (Danish National Research Foundation) Center-of-Excellence Grant, DKK 54,000,000.
- 2013; EU Graphene Flagship; 30 man-month grant for a post-doctoral fellow.

## Conference Organization

- Organizer; (with O. P. Hansen) Nordic Research Symposium on "Physics and applications of MBE and MOCVD grown structures of III-V semiconductors", Fuglsøcentret, Denmark, Nov. 27 - Dec. 1, 1989
- Organizer; (with P. E. Lindelof) Nordic Research Symposium on "Mesoscopic Physics", Fuglsøcentret, Denmark, May 3-7, 1992
- Member; Nordic Advisory Committee, Nordita Workshop on Nanometer Structures and Mesoscopic Physics, 22-26 June 1992, Trondheim, Norway
- Member; Organizing Committee, Nato Advanced Study Institute on Quantum Transport in Ultra-small Devices, Il Ciocco, Italy, July 17-30, 1994
- Organizer; (with P. Cvitanovic and G. Tanner) Workshop on "Chaos in Microstructures", Lyngby, February 3, 1995
- Organizer; (with S. Stenholm (Chairman) and K. Møllmer) Nordic Research Symposium on "Dynamics of Simple Quantum Systems", Sandbjerg, May 11-15, 1995
- Chairman; Nato ASI on "Frontiers in Nanoscale Science of Micron and Submicron Devices", Kiev, Ukraine, August 16-27 1995

- Organizer; (with K. Flensberg (Chairman), H. D. Jensen, and H. Bruus) Workshop on "Fundamental Aspects of Applications of Single Electron Devices", Lyngby, July 24 - 26, 1997
- Chair; Mesoscopic Days IV, Lyngby, May 7-9 1999
- Member; Program Committee, Electron Transport in Mesoscopic Systems (Satellite to LT-22), Gothenburg, August 1999
- Member; Program Committee, International Workshop on "Kadanoff-Baym equations - Progress and perspectives for many-body physics", Rostock, September 1999
- Program Chair; 19th Nordic Semiconductor Meeting (NSM-19), Copenhagen, May 2001.
- Member; Advisory Committee, International Conference on Physics of Semiconductors (ICPS-2002), Edinburgh, Scotland, June 2002.
- Member; Advisory Committee, International Workshop on "Progress in Nonequilibrium Green's functions", Dresden, Germany, August 2002.
- Chair; Symposium on Mesoscopic Physics, 20th General Conference of the EPS Condensed Matter Division, Prague, Czech Republic, July 19 - 23 2004.
- Chair; DTU Nanosymposium, Lyngby, Denmark, August 19, 2004.
- Co-chair; Computational Problems in Physics (CPiP), Finland, May 23 - 25, 2005.
- Member; Advisory Committee, International Workshop on "Progress in Nonequilibrium Green's functions", Kiel, Germany, August 2005.
- Member; Organizing Committee, Niels Bohr Summer Institute, Denmark, August 2005.
- Co-chair; Second International Conference on Transport Phenomena in Micro and Nanodevices, Il Ciocco, Barga, Italy, June 11 - 15, 2006.
- Organizer; Minisymposium on NEMS, Dynamic Days 27, Loughborough, UK, July 9 - 13, 2007.
- Member; Advisory Committee, International Workshop on Progress in Nonequilibrium Green's functions IV, Glasgow, UK, August 2009.
- Member; Organizing Committee, Carbonhagen III, Copenhagen, August 23 - 24, 2012.
- Co-Chair; International Workshop on Progress in Nonequilibrium Green's functions V, Jyväskylä, Finland, August 2012
- Member; Advisory Board, Electronic Transport Sessions in LT27 (International Conference on Low Temperature Physics), Buenos Aires, Argentina, August 6 - 13 2013
- Member; Organizing Committee, Carbonhagen IV, Copenhagen, August 19 - 20, 2013.
- Member; Organizing Committee, Carbonhagen V, Copenhagen, August 21 - 22, 2014
- Member; Organizing Committee, Summer School on "Challenges in Two-dimensional Materials", Copenhagen, August 18 - 20, 2014
- Member; Program Committee, PNGF VI, Lund, Sweden, August 17 - 21 (2015)
- Member; Scientific Program Committee, EDISON 19, Salamanca, Spain, June 29 - July 2 (2015)

## Referee

- Journals; Physical Review Letters, Physical Review B and E, Journal of Physics: Condensed Matter, Solid State Electronics, Superlattices and Microstructures, Physica Scripta, Physica B, Physica E, Physics Reports, Physics Letters A, Optics Letters, Europhysics Letters, Semiconductor Science and Technology, Nanotechnology, Journal of Physics A: Math. and Gen., Journal of Physics B: Atomic, Molecular and Optical Physics, Journal of Physics D: Applied Physics, Applied Physics Letters, Journal of Applied Physics, European Physical Journal B, Reviews of Modern Physics, Nano Letters, Transactions on Nanotechnology, Transactions on Electron Devices, Modelling and Simulation in Materials Science and Engineering, New Journal of Physics, Journal of Chemical Physics, ACS Nano, Nature Communications, Journal of Physical Chemistry, Philosophical Magazine, Scientific Reports, Nanoscale Research Letters.
- Publishers; Cambridge University Press, Wiley-VCH.