Curriculum Vitae – Elisabeth Nilsson

Education

September 1980 – June 1984 Degree of Master of Science (Physics, Mathematics, Chemistry) in Upper Secondary Education, Lund University, Sweden

September 1984 – February 1985 Advanced courses in Physics, Lund University, Sweden

March 1985 – March 1990 PhD in Atomic Spectroscopy, Lund University, Sweden. Thesis: "*Spectroscopic Studies of Energy Levels, Lifetimes and Superionization in Heavy Atoms*". Supervisor Prof. Sveneric Johansson

1990 Postdoctoral visit (2 months), National Institute of Standards and Technology (Prof. Victor Kaufman), Washington DC, US

August 2004 – August 2005 "*AKKA – Ledarutvecklingsprogram (för kvinnor)*", Leadership Program, Lund University, Sweden

September 2008 – September 2009 "*Ledning av pedagogisk verksamhet*", (Leadership of Pedagogical Activities), Lund University, Sweden

Appointments held (reverse chronological order)

July 16, 2019 – Learning Organizational Developer, International Iberian Nanotechnology Laboratory, INL, Braga, Portugal

February 1999 – Associate Professor of Experimental Physics, Engineering Faculty at Lund University, Sweden. (On leave of absence since August 2018.)

July 2013 – July 2018 Director of Undergraduate Studies, Dept. of Physics, Faculty of Engineering, Lund University

July 2007 – June 2013 Director of the Engineering Nanoscience Educational Program, Lund University

January 2003 – June 2007 Deputy Director at National Resource Center for Physics Education, Lund University (Part time employee since January 2001.)

January 1994 – January 1999 Editor, Project leader, Gleerups Educational Publishing Company, Malmö, Sweden

August 1990 – December 1993 Teacher (full-time), adult education (upper-secondary level), Municipality of Lund, Sweden

August 1983 – December 1989 Teacher (part-time), adult education (upper-secondary level), Municipality of Lund, Sweden

Commissions of Trust

Boards

August 1996 – August 1998 Board member, Berling Media AB (former Verbum AB), Stockholm, Sweden

January 2003 – December 2005 Member of the Undergraduate Program Board CD, Faculty of Engineering, Lund University

January 2006 – December 2011 Vice Chairman, Appointments Board 2, Faculty of Engineering, Lund University.

January 2010 – December 2012 Chairman of the Board, National Resource Centre for Physics Education, Lund University

July 2012 – June 2013 Member of the Undergraduate Programme Board B, Faculty of Engineering, Lund University

June 2016 – July 2018 Member of the Board of CEE, Centre of Engineering Education, Faculty of Engineering, Lund University

Expert Assignments

May 2000 – Faculty Examiner of Licentiate thesis, Hampus Nilsson, "*Laboratory measurements of absolute oscillator strengths in Fe II*"

January 2004 – June 2005 Member of assessment panel evaluating applications for the Renewal of Engineering Education, Council for the Renewal of Undergraduate Education, Stockholm, Sweden.

January 2006 – June 2007 Member of Assessment Panel, LTH's Pedagogical Academy, Lund University

May 2009 – December 2009, Member of a group of experts developing a new course syllabi in Physics for the compulsory school, The Swedish National Agency for Education, Stockholm, Sweden

January 2010 – March 2011, Member of a group of experts working with Quality Assessment of Physics Education (Years 5 and 9), The Swedish Schools Inspectorate, Lund, Sweden

December 2012 – February 2013 and September – October 2016, External expert reviewing applications for "Excellent Teacher", Uppsala University, Uppsala, Sweden

November 2010 – June 2013 Main Examiner, Master's Theses at Solid State Physics, Lund University

September 2013 granted "*Teacher certification*" (Introduced in 2011) by the Swedish National Agency for Education.

2012, 2016 – 2017-2018 Member of Assessment Panel, LTH's Pedagogical Academy, Lund University

Member of Examining committee at the following Doctoral Dissertations at Lund University:

April 1995 Maria Rosberg, "*High-resolution Spectroscopy of Gold, Nickel and Iron; with Applications to Space Astronomy*"

October 2004 Nikolay Panev, "*Photoluminescence Studies of Single Quantum Dots*"

May 2010 Henrik Nilsson, "*Electron Transport in Nanowire Quantum Devices*"

June 2012 Katrin Klünder, "*Electron Wave Packet Dynamics on the Attosecond Time Scale*"

Organizing Committees

Member of the Local Organizing Committee of "*VUV8 – International Conference on Vacuum Ultraviolet Radiation Physics*", Lund University, August 4-8 1986.

August 2002 – Member of the Local Organizing Committee of GIREP2002, "*Physics in new fields and modern applications*", Lund University, Aug 5-9 2002

2002/2003 Responsible for the organization of four National Conferences on Science Education, "NO-biennaler", Sweden

2006/2007 Responsible for the organization of three National Conferences on Science Education, "NO-biennaler", Sweden

Invited talks/Keynote speaker (International Scientific Conferences)

Keynote speaker at "*Nanorisk 2008 – Determining occupational, environmental and health impacts*", Paris, France, October 21-23, 2008.

Invited talk at "*Partnership for Nanotechnology Education*", University of Southern California, Los Angeles, CA 26-28 April 2009.

Invited talk at "*K-12 NanoEducation International Benchmark Workshop*", Washington DC, December 6-7, 2010

Invited workshop; "*Communicating Science in Society*" at "*MNE2017*", International Iberian Nanotechnology Laboratory, Braga, Portugal 18-22 September 2017.

Invited talk – tutorial; "*Science Communication*" at "*NNT2018*", International Iberian Nanotechnology Laboratory, Braga, Portugal 18-20 September 2018.

Awards

1988/1989 ZONTA Amelia Earhart Fellowship – for research in aerospace related science

2003 Excellent Teaching Practitioner at Engineering Faculty, Lund University

2003 Teacher of the Year – Mechanical Engineering Program, Lund University

2011 Teacher of the Year – Civil Engineering Program, Lund University

Scientific Publications (selection)

[1] Nilsson, A.E., Se. Johansson and R.L. Kurucz, "The spectrum of singly ionized yttrium, Y II", Phys. Scr., vol. 44, pp. 226-257, Mar. 1991.

[2] Sorensen, S.L., Olsson, B.J., Widlund, O., Huldt, S., Johansson, Se., Källne, E., Nilsson, A.E., Hutton, R., Litzén, U. and Svensson, A., "*A normal-incidence beam line at the Max storage ring*", Nucl. Instr. Meth. Phys. Res. A, vol. 297, pp. 296-300, July 1990.

[3] Hof van het, G.J, Ekberg, J.O. and Nilsson, A.E. "*Extension of the analysis of Ni IX*", Phys. Scr., vol. 41, 252-256, Feb. 1990.

[4] Levin, J.C., Cederquist, H., O, C.-S., Short, R.T., Sellin, I.A., Liljeby, L., Huldt, S., Johansson, Se., Nilsson, E. and Church, D.A. "*Production of very cold, highly charged ions by synchrotron radiation: Comparisons of the "Scalpel" and "Hammer"*

methods", Nucl. Instrum. and Meth. Phys. Res. A, vol 262, pp. 106-109, Dec. 1987.

[5] Brage, T., Nilsson, A.E., Johansson, Se., Baschek, B. and Adam, J. *"Accidental degeneracy of doubly excited states in Fe II*", J.Phys. B, vol. 20, pp. 1153-1160, Mar. 1987.

[6] Adam, J., Baschek, B., Johansson, Se., Nilsson A.E. and Brage, T. *"Ultraviolet doubly excited Fe II lines in the laboratory and in the A-type star 21 Pegasi"*, Ap.J., vol. 312, pp. 337-343, Jan. 1987.

[7] Reistad, N., Hutton, R., Nilsson, A.E., Martinson, I. and Mannervik, S. *"Lifetimes of levels in C II and C III derived from beam-foil experiments and extensive cascade analyses*", Phys. Scr., vol. 34, pp. 151-157, Aug. 1986.

[8] Short, R.T., O, C.-S., Levin, J.C., Sellin, I.A., Liljeby, L., Huldt, S., Johansson, Se., Nilsson, A.E. and Church, D.A. *"Production of very-low-energy highly charged ions by synchrotron radiation*", Phys. Rev. Lett., vol. 56, pp. 2614-2617, June 1986.

Conference papers (Peer review)

[9] Lönngren, J., Jacobsson, D., Mårsell, E., & Nilsson, E., *"Breaking Catch-22 of Engineering Education for Sustainable Development: An Example of Parallell Learning of Teachers and Students*". Abstract from Improving Student Learning symposium, Lund, Sweden, 2012.

[10] Lönngren J., Ahrens, A., Deppert, K., Hammarin, G. and Nilsson E., *"Sustainable Development in Nano-perspectives – An Innovative Student Initiative"*, 6th Pedagogical conference at LTH, December 15, 2010.

[11] Nilsson, E., "*Teaching Interdisciplinarity – Experiences from a Complete University Education Program in Engineering Nanoscience*", GIREP 2008, Nicosia, Cyprus, August 18-22 2008.

[12] Nilsson A.E. and Johansson Se. *"The 4d4f-configuration in YII"*, ASOS 3, Amsterdam, August 28-31, 1989.

[13] Adam, J., Baschek, B., Nilsson A.E. and Brage, T. *"Doubly excited Fe II lines in 21 Pegasi*", 94th Colloquium of the international astronomical union, Capri, Italy July 4-8 1986

Books (in Swedish)

[14] Jönsson, G. and Nilsson E., *"Våglära och optik"*, Lund, Sweden: Teach Support, 2002, 2005, 2007. ISBN9789197249966

[15] Jönsson G. and Nilsson E., "*Bildfysik*", Lund, Sweden: Teach Support, 2003, 2007. ISBN9789197249959

[16] Jönsson G. and Nilsson E., "*Tillämpad atomfysik*", Lund, Sweden: Teach Support, 2005, 2007. ISBN9789197249942

Teaching

August 1983 – December 1993 Teaching Mathematics and Physics, upper-secondary level, adult education, Municipality of Lund, Sweden.

March 1985 – March 1990 20% teaching at Physics Department. Mostly lab exercises.

September 1997 – January 1999 Part time teaching at Physics Department, Lund University – a diversity of courses.

October 1997 – January 1998 Part time teaching (Teacher´s education) at University College, Kalmar, Sweden.

Course Responsible[1] for Undergraduate Physics Courses at the following Engineering Programmes at Lund University:

- Biomedical Engineering: 2011, 2012, 2016
- Chemical Engineering: 2000
- Civil Engineering: 2010 – 2016
- Computer Science and Engineering: 1999, 2017
- Electrical Engineering: 2001 – 2002
- Engineering Mathematics: 2006 – 2011
- Engineering Nanoscience: 2003 – 2012
- Industrial Engineering and Management: 2001, 2002, 2006
- Mechanical Engineering: 2000 – 2003

Course Responsible[2] Physics Course at the Pre-University Course in Technical Sciences; Lund University, Campus Helsingborg: 2018.

Course responsible[3] for course in Environmental Physics, a compulsory course for first-cycle studies for a Bachelor's degree in Environmental sciences at Science Faculty, Lund University: 1999 – 2001

Co-teacher at Undergraduate Physics Courses at the following Engineering Programmes at Lund University:

- Computer Science and Engineering: 2001 – 2006
- Electrical Engineering: 2000
- Engineering Physics: 1999, 2000, 2001
- Mechanical Engineering: 2004 – 2007
- Road and Traffic Technology at Campus Helsingborg: 2008, 2009,

Course responsible "*Sustainable Development – in Nano-perspectives*", Engineering Nanoscience: 2010 – 2015 and "*Perspectives on Sustainable Development*", Engineering Nanoscience and Engineering Physics: 2016 – 2017.

Science outreach

2001 – 2007, Teaching at numerous Courses for pre-, primary- and secondary-school teachers, National Resource Center for Physics Education, Lund University.

1985 – 1990 and 2000 – onwards, Public Lectures on Popular Science, > twice a year.

2001 – 2015 Arranging experimental workshops for "*Flickor på Teknis" (Females in Engineering)*, for female students in upper secondary school, once a year.

2003 – 2009 Public Lectures on "*Science and Superstition*".

2010 – 2012, Lectures on "*Visual Rhetoric*" at Course in Strategic Communication, Lund University, Campus Helsingborg.

2015 – 2018 Public Lectures on "*Science Communication*".

[1, 3] Main tasks: Lecturing, planning and development – but also teaching exercises and laboratory exercises.
[2] Main tasks: Lecturing and planning but also teaching exercises.