

## CV, Ann-Marie Pendrill

- **Born:** 1952
- **BSc** 1973
- **PhD** 1978, University of Gothenburg (UGOT), Atomic Many-Body Calculations of Pair Correlation and of Fine and Hyperfine Structure
- **Post-doc:** University of Washington (Seattle), 1978-80, University of Oxford (1980-1981)
- **"Docent:"** Department of Physics, University of Gothenburg, 1984
- **Professor:** Physics, UGOT, 1999. Science Education (visiting professor), Univ. college Skövde 2000-2002, Science communication and Physics Education  
Invited professor, Lund university (ULUND) 2015
- **Fellow** American Physical Society (APS) 1997
- **Director:** Swedish National Resource Centre for Physics Education, 2009-2019
- **PhD supervision:** *Physics:* Eva Lindroth (1987), Per Öster (1990), Anders Ynnerman (1993), Martin GH Gustafsson, (2002),  
*Science Education:* Helena Sagar (2014), Ingela Bursjö (2014), Kim Svensson (2017-2022), Moa Svensson (2017-)  
*Licentiatees:* Sara Bagge (2003), Simon Holmström, (2020), Cristian Abrahamson (2019), Eva Svensson (2020)

### Important committee work

- Physics committee, Swedish Natural Science Research Council, 1992-1997.
- Council for High-Performance Computers, 1994-1997.
- Swedish Higher Education Authority - Evaluation committee for Swedish university physics educations, 2003-2004.
- Editor, Swedish physical society magazine Fysikaktuellt 2002-2006.
- Science faculty expert for the UGOT teacher education 1997-2000.
- Coordinator, school contact group, Science faculty UGOT 2004-2010
- External expert in the group distributing state support for Swedish Science Centers (2005-2018 ).
- Editorial board, Physics Education, IOP (2008-) and Regional editor, Scandinavia (2014-)
- International Commission for Physics Education, ICPE, (2006 -2011).
- UGOT graduate school Center for Educational science and teacher research, CUL, Board member, "theme coordinator" and PhD supervisor (2005-2014)
- Coordinator for the Hasselblad foundation graduate school in Molecular science education (2007-2009).
- Member of the steering committees for licentiate graduate schools for teachers, "LicFontD", Linköping university (2011- 2016) and Center for Science in School - C-SIS, ULUND (2014-2019).
- Secretary, Swedish Science Education Research Association (FND) (2001-2005)
- A large number of PhD examination committees, in Physics, Math and Education.

### Major recent and on-going projects

- **Amusement park physics:** tivoli.fysik.org
  - Book: Physics for the whole body in playgrounds and amusement parks, AIP/AAPT, <https://aip.scitation.org/doi/book/10.1063/9780735423503> (2022)
  - Curricular material for physics, engineering and teacher programmes (1995-) and for physics days.
  - Supporting the development of materials for other parks: Kongeparken, Stavanger, Fysikkfryd at Tusenfryd, Oslo, Faglige dage, Tivoli Gardens, Copenhagen.
  - Organizing physics/science days in Liseberg amusement park, Gothenburg (2002-2004, 2012-), Coorganizer "Edutainment days" at Gröna Lund, Stockholm(2011-) reaching more

than 7000 students annually. Teacher CPD in Tivoli Gardens. Evaluations through questionnaires and group discussions.

- A series of articles, most of them in Physics Education (see [tivoli.fysik.org/english/articles](http://tivoli.fysik.org/english/articles))
  - Developing teacher roles for science days: (see *Teacher Roles in amusement parks*, Pendrill A-M, Kozma C and Theve A, 2013, in Proceedings ICPE-GIREP, p 591-599)
  - The 2016 paper *Beyond velocity and acceleration: jerk, snap and higher derivatives*, together with David Eager D and Nina Reistad 2016 in European Journal of Physics, 37, 6, 065008 is the most downloaded paper of EJP, with more than 150 000 downloads to date
- **Playground physics:** [www.fysik.org/lekplatsfysik](http://www.fysik.org/lekplatsfysik)
- Curricular material for student teachers and support material for teachers.
  - Professional development for more than a thousand preschool teachers as well as a large number of conference contributions in teacher conferences.
  - Collaborating with a local school for further development and implementation, resulting in a number of papers, including one paper "*The Equivalence Principle Comes to School ...*" selected as one of the highlights of 2014 for Physics Education 2014: <http://iopscience.iop.org/0031-9120/page/Highlights-of-2014-collection>
- **International Year of Light 2015**, [light2015.org/](http://light2015.org/) / [ljus2015.se](http://ljus2015.se)
- National contact point, and responsible for the Swedish [www-page ljus2015.se](http://www-page.ljus2015.se) and <https://www.facebook.com/ljus2015>
  - Local associated partner for Photonics Explorer Kit
- **Social media:**
- Responsible for a number of Facebook pages and groups, and active contributor to additional groups: [www.fysik.org/facebook](http://www.fysik.org/facebook)
- **Graduate school for teachers**
- Supervised three licentiate students in Science education.
  - Co-responsible for course on Science Communication, within the graduate school "Science education with focus on science communication" (2016)

## Miscellaneous

- **Conference organization: Nordic Physics Days** - joint meeting for the Nordic Physical Societies, Education programme - Copenhagen 2009, Program chair, Lund 2013. *Science biennial*, teacher conferences Luleå+Halmstad 2011, Växjö 2013, 2015 and Kristianstad 2017. Educational track for the atomic physics conference EGAS 2012, Göteborg. First *National preschool teacher network conference*, Stockholm (2011) *Scholarship of teaching and learning* (with Cedric Linder), Uppsala 2008, Lund 2013, Uppsala 2014. *Amusement park physics collaboration*, Mirabilandia 2012, Stockholm 2013. *Physics Bridge* -meetings between university school contacts and high-school teachers, 2012, 2013 (and a number of smaller meetings)
- **Teaching experience:** Since 1994: Mechanics, Waves, Electromagnetism and Modern physics in Physics, Engineering and Teaching programmes. Physics, math and technology education, as well as interdisciplinary courses in teacher education and in teacher professional development.
- **Competitions.** Arranging regional finals for the Young Scientists exhibits at UGOT (2003-2010). Chairing the scientific committee for the European Union Science Olympiad (EUSO) i Gothenburg 2010, and part of the Swedish EUSO-board, including problem construction (2012-2018) and coordinating training days for the Swedish team (2013-). Building a Swedish physics teacher network in connection with the International Young Physicists Tournament (IYPT), (2011-2013). Problem construction for the finals of Wallenberg Physics competition (Swedish selection for the International Physics Olympiad). Part of the Swedish team 1971 in the International Mathematics Olympiad.

## List of publications

<https://orcid.org/0000-0002-1405-6561>

See also

- Lund university <https://lup.lub.lu.se/search/publication>
- University of Gothenburg (reasonably complete after 2004)  
[https://gup.ub.gu.se/publications/list?person\\_id=80403](https://gup.ub.gu.se/publications/list?person_id=80403)

### With categories

<http://physics.gu.se/~f3aamp/publ.html> (Atomic physics, ...)

<http://physics.gu.se/~f3aamp/edu/publ.html> (Education - 2008)

<http://physics.gu.se/~f3aamp/teaching/publ.html> (popular science  
1998-2003)

