
Curriculum Vitae

Professor Per Jönsson
Department of Materials Science and Applied Mathematics
Malmö University
205 06 Malmö, Sweden

Personal

Name: Per Jönsson

Nationality: Swedish

Born: 1963–05–04

Place of Birth: Landskrona, Sweden

Married: 1994–07–09 with Ulrika Cederberg

Children:

Björn Cederberg, born 1994–11–30

Lo Cederberg, born 1996–08–28

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Current Position: Professor in Applied Mathematics at Malmö University

Military Service: Swedish Army, August 1982 – June 1983

Parental Absence: May 1997 – October 1997

Education

Matriculation: Natural Sciences, Gullstrandskolan, Landskrona, June 1982

University Studies:

Mathematics, Physics, Astronomy, Lund University, September 1983 – January 1988

Teacher training in Mathematics and Physics, School of Teacher Education, Lund University, August 1990 – June 1991

Research Studies:

Theoretical and Experimental Atomic Physics

Division of Atomic Physics, Lund Institute of Technology

February 1988 – January 1995

Licentiate Thesis:

Theoretical and Experimental Investigation of Atomic Radiative Lifetime and Hyperfine Structures

Division of Atomic Physics, Lund Institute of Technology, June 1992

Doctoral Thesis:

Large-Scale Atomic Calculations using Variational Methods

Division of Atomic Physics, Lund Institute of Technology, January 1995

Thesis Adviser: Prof. Sune Svanberg

Associate Professor (Docent) in Physics: Lund University, May 1999

Professor in Applied Mathematics: Malmö University, June 2007

Employments

PhD Student, Division of Atomic Physics, February 1988 – February 1995 (on leave August 1990 – June 1991)

Visiting Research Student in Computer Science

Vanderbilt University, USA, March 1990 – June 1990, January 1992 – May 1992

Postdoctoral Research Associate in Computer Science

Vanderbilt University, USA, April 1995 – May 1997

Lecturer in Mathematics, LTH-Malmö, October 1997 – February 1998

Lecturer in Physics, Kristianstad University, February 1998 – June 1998

Lecturer in Mathematics, Malmö University, September 1998 – October 1998

Lecturer in Mathematics, Kristianstad University, November 1998 – December 1998

Senior Lecturer in Applied Mathematics, Malmö University, January 1999 – June 2007

Professor in Applied Mathematics, Malmö University, June 2007 –

Director for Research Studies, Faculty of Technology and Society, Malmö University, June 2013 – June 2015

Current Externally Funded Research Projects

External Interactions and Nuclear Effects in Atoms for Plasma Diagnostics and Fundamental Physics, 2016 – 2019, Swedish Research Council, 3 700 kSEK, PI

Experimental and computational Atomic Astrophysics, 2017 – 2020, Swedish Research Council, 3 000 kSEK, co-PI

Sentinel-2 Data for Mapping Seasonality of Land Vegetation, 2014 – 2017, Swedish Space Board, 3 700 kSEK, co-PI

Awards

The Len Curtis Award for the best scientific paper published in the open literature of remote sensing during the year 2007.

Malmö University pedagogical prize 2008.

IOP Publishing Award for the highly rated article [Jiguang Li, Per Jönsson, Chenzhong Dong and Gediminas Gaigalas, J. Phys. B: Atomic, Molecular and Optical Physics 43, 035005 (2010).]

PhD Students

Ola Synnergren, Physics, Malmö University, Doctor December 2005 (assistant adviser)

Martin Andersson, Physics, Lund University, Doctor December 2006 (assistant adviser)

Per Schubert, Natural Geography and Remote Sensing, Lund University, Doctor June 2011 (assistant adviser)

Hongxiao Jin, Natural Geography and Remote Sensing, Lund University, Doctor June 2015 (assistant adviser)

Sanela Mehanovic, Mathematics Education Research, Licentiate August 2011

Thomas Lundblad, Science Education Research, Licentiate June 2012 (assistant adviser)

Pavel Rynkun, Physics, Vilnius Pedagogical University, Doctor June 2014 (assistant adviser)

Jon Grumer, Physics, Lund University, Doctor October 2016 (assistant adviser)

Asli Pehlivan, Physics, Lund University (assistant adviser, on going)

Asimina Papoulia, Physics, Lund University (assistant adviser, on going)

Cai Zhanzhang, Natural Geography and Remote Sensing Lund University (assistant adviser, on going)

Sadegh Jamali, Natural Geography and Remote Sensing Lund University, Doctor September 2014 (assistant adviser)

Madelein Burheim, Physics, Lund University (assistant adviser, on going)

Member of International Research Collaborations

Boron isotope ratios in early B stars from B III

NASA project for measuring stellar abundance ratios in Boron. Observation time with the Hubble Space Telescope (HST) was granted and the observations were done in September 1996 as part of the HST Guest Observer Program 6644.

Atomic Physics based on the Shanghai Electron Beam Ion Trap (EBIT)

Collaboration between the Universities in Lund and Malmö and Fudan University, Shanghai, China funded by the Swedish research council (2005 – 2007). The objectives of the collaboration is to study the properties of highly charged ions, providing new and vital data for the diagnostics of fusion and astrophysical plasmas.

Improving Our Understanding of Vegetation Phenology: Coupling Remote Sensing with Flux Tower Observations. Collaboration with a group at NASA Goddard Space Flight Center to link remote sensing based indices of vegetation phenology with carbon flux measurements at eddy covariance. The key to connecting the data is the TIMESAT program. The project is supported by the AmeriFlux network of flux sites.

Mobile Learning Environments

Project with participants from the Nordic countries funded by Nordic Innovation Center (NICE) to design, implement and test mobile math and physics

games aimed at formal education system.

Computational atomic structure with applications to astronomy and plasma physics

Collaboration project in theoretical and computational physics between universities in Sweden, Lithuania, and Poland funded by the Swedish Institute and the Visby program.

Visiting scientist at the National Institute for Fusion Science (NIFS), Japan, in 2011, collaboration on plasma physics and materials science

Funding Member of the International collaboration on Computational Atomic Structure (CompAS) <http://ddwap.mah.se/tsjoek/compas/>

Responsible for Malmö University Simulation Center

Appointed by the Rector to initiate and organize Malmö University Simulation Center, a competence center in computation and simulations available to all research groups at the university, 2004.

Principal Organizer of International Workshops

Trends in Atomic Structure Calculation and Spectroscopy, Lund, March 1993.

Editor for conference proceeding, *Physica Scripta* **RS 22** (1994).

Iron Group Atoms in the Laboratory and Space, Lund, June 1994.

Large-scale Atomic Calculations; Applications to Astrophysics and Nuclear Structure, Lund, January 1995.

Frontiers in Relativistic Multiconfiguration Calculations, Lund, August 2007.

Fourth COMPAS meeting - Future code development in response to challenges in atomic physics, nuclear physics, astrophysics and plasma physics, Malmö, June 1-4, 2016.

Fifth COMPAS meeting - Future code development in response to challenges in atomic physics, nuclear physics, astrophysics and plasma physics, Malmö and Lund, August 18-22, 2017.

Principal Organizer of Educational Conferences

Mathematics for the Digital Generation, Malmö, September 2012.

<http://omvarld.blogg.skolverket.se/2012/09/18/matematik-for-den-digitala-generationen/>

Referee for International Journals

IEEE Transactions on Geoscience and Remote Sensing

IEEE Transactions on Geoscience and Remote Sensing Letters

Remote Sensing of Environment

Photogrammetric Engineering and Remote Sensing

Atomic data and and Nuclear data tables

Journal of Physics B: At. mol. phys.

European Journal of Physics

Physica Scripta

International Journal of Quantum Chemistry

International Journal of Mass Spectrometry

Computer Physics Communications

Astrophysical Journal

Canadian Journal of Physics

Atoms

Journal of Quantitative Spectroscopy and Radiative Transfer

Member of Editorial Boards

Member of the Editorial Board for Atoms (ISSN 2218-2004), an international and cross-disciplinary scholarly journal of scientific studies related to all aspects of the atom.

Member of the Editorial Board for Atomic Data and Nuclear Data Tables, an international scholarly journal that presents compilations of experimental and theoretical information in atomic physics, nuclear physics, and closely related field.

Member of the Editorial Board for Matter and Radiation at Extremes (ISSN 2468-080X), an international scholarly journal published by China Academy of Engineering Physics (CAEP) committed to the publication of original research and comprehensive and in-depth review papers in all areas of experimental and theoretical physics on matter and radiation at extremes.

Guest Editor

Guest Editor for Atoms, Special Issue on Critical Assessment of Theoretical Calculations of Atomic Structure and Transition Probabilities, 2014.

Work for International Organizations

Participant at The 3rd Biennial Technical Meeting on International Code Centres Network, International Atomic Energy Agency (IAEA) headquarter Vienna, May 6 – 8, 2013

Participant at Consultants' Meeting on Auger Electron Emission from Nuclear Decay: Data Needs for Medical Applications, IAEA headquarter Vienna, May

9 – 10, 2013

Lecturer at the 2015 Joint ICTP-IAEA Advanced School and Workshop on Modern Methods in Plasma Spectroscopy, Trieste, Italy, March 16–27, 2015

Participant at the Technical Meeting on Uncertainty Assessment and Benchmark Experiments for Atomic and Molecular Data for Fusion Applications, IAEA headquarter Vienna, December 19 – 21, 2016

Attended Courses in Pedagogy

Lunds tekniska högskolas docentkurs, (LTH/UPC/LU). One week course containing PhD supervision, leadership, lecturing etc., Lund, 1998.

Seminar arranged by the Quality Board of Mah. Two day seminar by George Brown on curriculum design, Malmö, 2001.

Den välkomnande högskolan, Samverkansgruppen för högskoleutbildningar, Chalmers, Göteborg, June 10 – 11, 2002.

Att utvecklas som högskolelärare vid Mah (2 p), (Mah/UPC/LU). Course containing general pedagogy of higher education, Malmö, 2003.

Division of Nature, Environment and Society at the Teachers Education, study visit to England, June 9 – 13, 2004.

Perspektivkurs (2 p), (Mah/UPC/LU). Course focusing on the implementation of the three perspectives of Malmö University: gender studies, IMER, and environmental science, Malmö, 2004.

Nätpedagogisk introduktionskurs (1 p), (Mah/UPC/LU). Course on teaching and learning on-line, Malmö, 2005.

Anställningsprocessen ur ett juridiskt perspektiv, August 24, 2005. One day course on the judicial aspects of the employment process for members of the committees for employments at Malmö University.

Invited Talks at International Conferences

Eighth International Conference on Atomic and Molecular Data and Their Applications (ICAMDATA). Invited lecture on Accurate transition probabilities from large scale multiconfiguration calculations, NIST USA, September 30 - October 4, 2012.

12th International Colloquium on Atomic Spectra and Oscillator Strengths (ASOS). Invited lecture on Performance comparison of atomic structure codes, Sao Paulo, Brazil, July 4-7, 2016.

Joint Iberian Meeting on Atomic and Molecular Physics (IBER2017). Invited lecture on atomic structure calculations, Barcelona, Spain, September 12-14, 2017.

Invited Talks at Education Conferences

Matematikbienalen. Bi-annual meeting of the Swedish mathematics teachers. Invited lecture on modeling and simulations in biology, ecology and medicine, Malmö, January 22 – 24, 2004.

Seminarium om innovationer och kreativitet i naturvetenskaper, Tekniska Föreningens i Finland 125-årsjubileumsprogram. Seminar on innovation and creativity in science organized by the Finnish School Agency. Invited lecture on modeling in biology and ecology, Helsinki, February 10 – 11, 2005.

Nordisk konferanse i matematikdidaktikk. Nordic Conference on mathematics didactics. Invited lecture on the use of computers in mathematics education, Trondheim, November 19 – 22, 2005.

Matematikbienalen. Bi-annual meeting of the Swedish mathematics teachers. Invited lecture on computations and simulations in mathematics education, Malmö, January 26 – 27, 2006.

Matematikbienalen. Bi-annual meeting of the Swedish mathematics teachers. Invited lecture on Laborative work in mathematics with modern technology, Stockholm, January 31 – February 1, 2008.

National conference for technology in school. Bi-annual meeting of the Swedish technology teachers. Invited lecture on Mobile computer games, Norrköping, April 14 – 15, 2008.

Learning Technology Innovation Center. Seminar on Mobile games – expanding learning into the reality, Malmö February 23, 2009.

Matematikbienetten. Meeting of Swedish mathematics teachers. Invited lecture on Laboratory work in mathematics with modern technology, Malmö, March 7, 2009.

Kvinnor och matematik 7. Women and mathematics, Göteborg, June 14 – 16, 2009. Invited lecture on mathematics and climate change

National meeting of the Swedish mathematics developers. Meeting arranged by the National Center for Mathematics Education and by the Swedish School Agency. Invited lecture on mathematics education in the new media landscape, Stockholm, January 27, 2010.

Matematikbienalen. Bi-annual meeting of the Swedish mathematics teachers. Invited lectures on the use of cell phones in the mathematics teaching and on the use of technology in the class room, Stockholm, January 28 – 29, 2010.

National conference for technology in school. Bi-annual meeting of the Swedish technology teachers. Invited lecture on Mobiles in technology education, Norrköping, April 26 – 27, 2010.

Professional teacher competency through games and simulations. Meeting arranged by the Swedish Knowledge-foundation. Invited lecture on Mathematics with mobile phones, Malmö, May 19 – 20, 2010.

First Meeting of the Indo-Swedish Working Group on Mathematics Education.

Invited lecture on Mathematics Education and the new media landscape, Göteborg, June 6 – 8, 2010.

Lund education day for mathematics teachers. Opening lecture on ICT and the new media landscape and its consequences for teaching and learning, Lund, March 7, 2011.

Matematikbietenen. Meeting of Swedish mathematics teachers. Two invited lectures on Laboratory work in mathematics with modern technology, Malmö, March 12, 2011.

Physics Bridge. Meeting organized by the National Center for Physics Education in Sweden. Invited lecture on ICT in physics education, Gothenburg, October 12 – 13, 2011.

Matematikbienenalen. Bi-annual meeting of the Swedish mathematics teachers. Invited lectures on the use of cell phones in the mathematics teaching and on the use of technology in the class room, Umeå, January 25 – 26, 2012.

7th European Summer University on the History and Epistemology in Mathematics Education. In the panel on the topic: Computational Technology: Historical and philosophical approaches to technics and technology in mathematics and mathematics education, Copenhagen, July 14 – 18, 2014

MaNv bienetten. Meeting of Swedish science and mathematics teachers. Invited lecture on Laboratory work in mathematics with modern technology, Malmö, March 14, 2015.

Research Seminar on Future Learning, Halmstad University. Invited talk on Internal and representations: possibilities with ICT, Halmstad, October 28, 2015.

UR/Kunskapskanalen, broadcast on new research. Does the forest matter? To observe vegetation and climate from space, Malmö, October 20, 2015.

Seminar at the Swedish National School Authority. Does the forest matter? To observe vegetation and climate from space, Stockholm, December 17, 2015.

Matematikbienenalen. Bi-annual meeting of the Swedish mathematics teachers. Invited lectures on the use of film and virtual reality as an educational tool, Karlstad, January 25 – 26, 2012.

Teaching

Lab Instructor: A number of physics courses, LTH, 1988–1995

Lecturer and Course Coordinator: A large number of courses in mathematics, physics, and programming at Lund University, Kristianstad University and Malmö University from 1998 –

Main Responsible for PhD Courses:

X-ray Diffraction, (5 hp), Lund University, 2003

Mathematical Models in Biology, (5 hp), Malmö University, 2004

Computational Atomic Structure, (7.5 hp), Malmö University, 2016, 2017

Teaching in the industry:

Introductory Mathematics with Computer Applications (4 hp), external course for Ericsson Radio Systems, Lund, 2001

Lecturer at International Courses:

Calculation and Simulation of Atomic Data for Astrophysics

An Intense Program in Computational Atomic Physics,

Lund 10 – 20 April 2000, Rennes, France, 13 – 25 April 2004

sponsored by SOCRATES/ERASMUS

Teaching staff exchange between Malmö University and Vilnius Pedagogical University, 2006, 2007, 2009, 2010

sponsored by SOCRATES/ERASMUS

Intense Program in Computational Atomic Physics

Fudan Modern University, Shanghai, China, 11 – 21 June 2006

Intense Program in Computational Atomic Physics

Lund/Malmö, 19 – 30 September 2011

Administrative Appointments

Member of the research council (forskningsrådet) at the school for Technology and the Society (TS), Malmö University January 2000 – January 2002

Member of the board of undergraduate studies (utbildningsnämnden) at TS, Malmö University, April 2000 – September 2002

Member of co-operation group for high school and university mathematics in Malmö, 2002

Deputy substitute at the committee for employments (anställningsnämnden) at TS, Malmö University, April 2000 – January 2005.

Member of the IPF group for planning of the new engineering programs at TS, 2004.

Member of the quality board for the education of high school teachers in mathematics at the Teachers Education (LUT), Malmö University, 2004 – 2006

Member of the committee for employments (anställningsnämnden) at TS, Malmö University, January 2005 – January 2008.

Member of the research council (forskningsrådet) at the school of teacher education (LUT), Malmö University, September 2005 – August 2007

Member of the steering committee for Malmö University Center for Game Studies (MUGS), January 2006 – January 2008.

Member of the Docent committee (Docentnämnden) at Malmö University, January 2008 – 2015.

Board member and vice-chair of the National Research School in Science and

Technology Education (FontD), 2009 – 2011

Member of the steering committee for the KK-environment on New Media, 2009 – 2010

Member of the research council (forskningsrådet) at Center for Technology Studies, Malmö University, January 2010 –

Member of the publication and bibliography group at Malmö University, June 2010 – 2012

Member of the board of undergraduate studies (utbildningsnämnden) at TS, Malmö University, June 2011– 2014

Member of the course committee (kursplanenämnden) at TS, Malmö University, June 2011– 2014

Member of the senior research forum for bio films Interfaces , Malmö University, June 2011– 2014

Member of External Committees

Examiner for Nader Tajvidis Docent lecture in Mathematical Statistics, Lund University, January 2002.

Member of the thesis committee at the Licentiate examination of Mattias Eriksson in Physics, Lund University, May 2002.

Member of the thesis committee at the Doctoral dissertation of Stefan Ivarsson in Physics, Lund University, May 2004.

Member of the thesis committee at the Doctoral dissertation of Helena Korp in Pedagogy, Lund University, September 2006.

Member of the thesis jury at the Doctoral dissertation of Jan Verbesselt in Bio-engineering, Katholieke Universiteit Leuven, Belgium, September 2006.

Member of the thesis jury at the Doctoral dissertation of Johan Lindström in Mathematical Statistics, Lund University, May 2008.

Member of the thesis jury at the Doctoral dissertation of Joel Clementson in Physics, Lund University, June 2010.

Member of the thesis jury at the Doctoral dissertation of Thomas Carette in Physics, Universite Libre de Bruxelles, Belgium, December 2010.

Member of the thesis jury at the Doctoral dissertation of Thomas Lennartsson in Astronomy and Astrophysics, Lund University, April 2012.

Member of the thesis jury at the Doctoral dissertation of Simon Verdebout in Physics, Universite Libre de Bruxelles, Belgium, October 2012.

Member of the thesis committee at the Doctoral dissertation of Andreia Balan in Pedagogy, Malmö University, December 2012.

External evaluator for a position as assistant professor in mathematics with specialty in didactics, Lund University, November 2013.

External evaluator for a position as associate professor in atomic physics, Physics Department of the Faculty of Sciences, Lisbon University, July 2014.

Member of the thesis committee at the Licentiate examination of Peter Markkanen in Mathematics didactics, Linne University, August 2014.

Member of the thesis committee at the Doctoral dissertation of Maria Fahlgren in Mathematics didactics, Karlstad University, December 2015.

Member of the thesis committee at the Doctoral dissertation of Stefanos Carlström in Physics, Lund University, January 2017.

Member of the thesis committee at the Doctoral dissertation of Livio Filippin in Physics, Universite Libre de Bruxelles, Belgium, November 2017.

External evaluator for a position as Professor in Mathematics Education, Malmö University, November 2017.