

Curriculum vitae

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Dr. Per-Olof Wickman
Born 1955-September-04

Department of Mathematics and Science Education
Stockholm University
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Sweden

Academic Degrees

2007-June-29 Docent* in Science Education, Helsinki University.
1990-June-1 Docent* in Zoology and Ecology, Department of Zoology, Stockholm University.
1987-June-22 PhD in Zoology, Ecology, Department of Zoology, Stockholm University.
1982-June-11 Bachelor of Education (secondary school teacher in chemistry and biology), Stockholm Institute of Education.
1979-Oct-08 Bachelor of Philosophy, Stockholm University: biology, chemistry and mathematics.

2007 course for supervisors of PhD students, The Centre for Learning and Teaching, Stockholm University
2010 course in media communication for researchers, Stockholm University
2012 course “To be a leader at Stockholm University”

* A docent degree (habilitation) requires a scientific production corresponding to two doctoral theses that are reviewed by at least two referees (one external) and the passing of an examination test regarding teaching skills.

Academic Positions

Since 2020 Professor Emeritus at the Department of Education in Mathematics and Science at Stockholm University.
2008–2020 Professor and Director of Science Education at the Department of Education in Mathematics and Science at Stockholm University.
2013 January: Visiting professor at the Institut Universitaire de Formation des Maîtres de Bretagne, Université de Bretagne Occidentale, France
2009 January–March: Visiting professor at the Department of Mathematics and Science Education, Illinois Institute of Technology, USA
2002–2007: Professor and Director of Science Education at the Department of Curriculum Studies and Communication at Stockholm Institute of Education.
1995–2002 Associate Professor at Stockholm Institute of Education (half time first year)
1990 Associate Professor at Kalmar University College (half time)
1987-1996 Assistant and Associate Professor at Stockholm University.

Teaching at University

During my period as doctoral student, Assistant and Associate Professor at Stockholm University and as Associate Professor at Kalmar University College I have taught numerous courses in ecology, evolution and zoology at both the bachelor and masters

levels, and in the biology programs as well as teacher programs. During that period I also functioned as director of faunal studies and evolution courses.

During my period as Associate Professor and Professor at Stockholm Institute of Education and as Professor at Stockholm University I have taught numerous courses in the science teacher programs, including e.g. biology, methods, didactics and bachelor and master's thesis courses. I have supervised teacher students at all levels including doctoral students (see below) and been responsible for several courses in the doctoral program at Stockholm University as well as at Linköping University and Uppsala University.

School Experience

1996 Extra teacher for Science Projects at upper secondary school.
 1981 Extra teacher in General Science at upper secondary school.
 1980 Teacher for visiting secondary school classes at a Zoo (Skansen's Aquarium) in Stockholm.
 1979-1980 Extra teacher of biology in secondary school.
 1977-1980 Part-time teacher for visiting primary school classes at a Zoo (Skansen) in Stockholm.
 1977-1978 Teacher assistant in primary school classes with special needs.

Research projects

2018-2020 Co-PI of "Project West" concerned with supporting disadvantaged schools in western Stockholm. Financed by the City of Stockholm.
 2014-2018 PI of the "Graduate School in Didactic Modelling and Analysis for Science Teachers". Financed by the Swedish Research Council.
 2013-2017 Co-PI of the project "Teaching traditions and learning. Comparative didactic analysis of science education and physical education and health in Sweden, Switzerland and France. Financed by the Swedish Research Council.
 2011-2014 PI of the project "Supporting teachers' agency and learning in teaching secondary school science". Financed by the Swedish Research Council.
 2009-2013 Co-PI of the graduate school "National School of Research on Education and Sustainable Development" directed by Professor Leif Östman, Uppsala University. Financed by the Swedish Research Council.
 2009-2013 Co-PI of the network "The Network for Research on Literary Practices" directed by Professor Leif Östman, Uppsala University. Financed by the Swedish Research Council.
 2007-2012 Co-PI of the project "Learning, interactive technologies and the development of narrative knowing and remembering (LINT)" in cooperation with Professor Roger Säljö (director, Göteborg University), Professor Ann-Caravita Evaldsson (Uppsala University), Professor Per Linell (Linköping University) and Associate Professor Åsa Mäkitalo (Göteborg University). Financed by The Knut and Alice Wallenberg Foundation, The Bank of Sweden Tercentenary Foundation and The Swedish Research Council programme for the study of Learning and Memory in children and young adults.
 2006-2008 Co-PI of the project "China Curriculum Changes, the Content of Schooling and Teacher Education Models" between Stockholm Institute of Education, Beijing Institute of Education and Liaocheng University, China, directed by Professor Ingrid Carlgren, Stockholm Institute of Education. Financed by the Swedish Research Council and by the Swedish International Development Cooperation Agency-Swedish Research Links.
 2006-2008 PI of the "Swedish Network for Research on Learning and Interaction" in cooperation with Professor Kerstin Bergqvist, Linköpings university, Professor Roger

- Säljö, Gothenburg university and Professor Leif Östman, Uppsala university. Financed by the Swedish Research Council.
- 2005-2009 PI of the project “How can Teachers Aid Students towards Scientific Reasoning?” Financed by the Swedish Research Council.
- 2003-2005 Co-PI of the “Swedish Network for Socio-Cultural Studies” directed by Professor Roger Säljö, Gothenburg University. Financed by the Swedish Research Council.
- 2002-2005 PI of the project “How can Science Become Useful in New Contexts” in cooperation with Professor Ingrid Carlgren, Stockholm Institute of Education and Professor Britt-Marie Sjöberg, Stockholm University.
- 2000-2001 Co-PI of the pilot project “Selective Traditions, Frame Factors and Interpretation: Teachers’ Encounters with the New Curriculum in Science” in cooperation with Associate Professors Piotr Szybek, Lund University, Carl-Anders Säfström, Uppsala University and Leif Östman, Uppsala University. Financed by the Swedish National Agency for Education.
- 1998-2000 Co-PI of the project “What do Students Learn during Laboratory and Field Work” in cooperation with Associate Professor Leif Östman at Uppsala University. Financed by Uppsala University.
- 1998 PI of the project “Teachers Epistemological Attitudes and Ways of Explaining”. Financed by Stockholm Institute of Education.
- 1994-1995 PI of the project “Costs and Benefits of Mate Choice”. Financed by the Swedish Science Research Council.
- 1994 PI of the project “Comparative Studies of Butterfly Mating Systems and Eye Morphology” in cooperation with Professor Ronald L. Rutowski, Dept. of Zoology, Arizona State University. Financed by the Swedish Science Research Council.
- 1993-1995 PI of the project “Evolution of Insect Leks”. Financed by Ivar Bendixon’s Grant, Stockholm University.
- 1987-1991 PI of the project “Mate-Searching Strategies of Butterflies”. Financed by the Swedish Science Research Council.

Supervision

Main supervisor of 12 students to a PhD degree:

- Lil Engström (2006) Teaching Mathematics: Posing Problems Using Dynamic Geometry Software.
- Agneta Boström (2006) Sharing Lived Experience: How Upper Secondary School Chemistry Teachers and Students Use Narratives to Make Chemistry More Meaningful.
- Iann Lundegård (2007) Towards Pluralism – Students in Situated Deliberations on Sustainable Development.
- Britt Jakobson (2008) Learning Science Through Aesthetic Experience in Elementary School: Aesthetic Judgement, Metaphor and Art.
- Per Sund (2008) Discerning Selective Traditions in the Socialization Content of Environmental Education – Implications for Education for Sustainable Development.
- Karim Hamza (2010) Contingency in High-School Students’ Reasoning about Electrochemical Cells: Opportunities for Learning and Teaching in School Science.
- Jakob Gyllenpalm (2010) Teachers’ Language of Inquiry: The Conflation between Methods of Teaching and Scientific Inquiry in Science Education.
- Auli Arvola-Orlander (2011) The Body at Stake: Discursive Tensions in Secondary School Biology Teaching.
- Annie-Maj Johansson (2012) Inquiry Practices in Primary Science Education.

Maria Petersson (2012) Teachers' Accounts of Evolution as Subject Content of Biology in Upper Secondary School
 Per Anderhag (2014) Taste for Science: How Can Teaching Make a Difference for Students' Interest in Science?
 Veronica Flodin (2015) A Study in Didaktik of the Knowledge Content of Biology at the University : With the Gene Concept as an Example

Hosting visiting scholars

2020 PhD student Zülfiye Melis Demir, Anadolu University, Turkey
 2019-2020 Post doc Dr. Paulo Lima Junior, Universidade de Brasilia, Brazil
 2017-2018 PhD student Cui Lu, East China Normal University, China
 2017 PhD-student Liv Kondrup-Kristensen, Professionshøjskolen Absalon, Roskilde, Danmark
 2016-2017 Visiting professor, Associate Professor Geeta Verma, University of Colorado, Denver, USA.
 2014 Professor Stein Dankert Kolstø, University of Bergen, Norway.
 2014 Professor Erik Knain, Norwegian University of Life Sciences (UMB)
 2014 PhD student Hugo Gonçalo Bravo Marques, Instituto de Educação da Universidade de Lisboa, Portugal.
 2014 PhD student, Guopeng Fu, University of British Columbia, Canada.
 2008 Dr. Florence Ligozat, University of Geneva, Switzerland

Administration and Engagements

Current

Since 1990 Fellow of the Linnean Society of London
 Since 2014 Member of the Advisory Board of the journal *Nordic Studies in Science Education*
 Since 2016 Fellow of the Royal Swedish Academy of Sciences
 Since 2017 Member of the Committee for Education and Science at the Royal Academy of Sciences.

Closed

2008–2020 Director of Science Education Research at Stockholm University
 2008–2020 Member of the board of the Department of Mathematics and Science Education, Stockholm University
 2013–2019 Director of the *Graduate School in Science Education* at Stockholm University in collaboration with Uppsala University and funded by the Swedish Research Council.
 2013–2019 Director of the *Graduate School for Subject Didactics* at Stockholm University in cooperation with local municipalities
 2014–2019 Member of the editorial board of *Forskning om undervisning & lärande* [in Swedish: *Research on Teaching and Learning*].
 2015–2019 Associate editor of the *Journal of Research in Science Teaching*
 2013–2018 Associate editor of the *Journal of Science Teacher Education*
 2011–2018 Lead editor of the journal *Cultural Studies of Science Education*
 2015–2017 Member of the Working Committee for Teacher Education Co-ordination, Stockholm University
 2004–2017 on the editorial board of the journal *Science Education*
 2015-2017 Chair of the Board of Educational Research at the Swedish Centre for Educational Research.

1995–2016 member of the Advisory Council for Association for Tropical Lepidoptera, c/o Florida State Collection of Arthropods, publishing the journals Tropical Lepidoptera and Holarctic Lepidoptera.

2012–2015 National Reference Group for School Science and Technology Education, The Swedish National Agency for Education

2012–2015 Member of the Research Committee for Teacher Education at Stockholm University

2013–2015 Member of the scientific board of the national school development program NTA (appointed by the Royal Academy of Sciences).

2011–2014 Deputy Head of the Department of Mathematics and Science Education, Stockholm University

2001–2004, 2009–2010, 2015 Member of referee committees for Educational Science at the National Research Council.

2005–2010 Member of the Committee for School and Science at the Royal Academy of Sciences.

2006–2009 Member of the referee group for the Ingvar Lindqvist Award for teachers in mathematics and science at the Royal Academy of Sciences.

2007–2009 Member of the committee for NARST Early Career Award.

2008 Member of the Board of the Graduate School on Climate Development and Water Resources.

2007–2008 Member of the Board of the Institute of Education on Sustainable Development, Uppsala University

2001–2008 Member of the board of the National Graduate School in Science and Technology Education residing at Linköping University.

1998–2008 Member of the Board for NTA at the Royal Academy of Sciences.

2002–2007 Member of the Board of the Dept. of Curriculum Studies and Communication.

2005–2007 Member of the Board of the Centre of Education for Sustainable Development, Stockholm Institute of Education.

2006 Elector for the Research Council, Social Sciences and the Humanities.

2003–2006 Deputy member of the Board for Graduate Education in Educational Sciences, Stockholm Institute of Education.

2005–2006 Member of the Board for the House of Science, Stockholm (a Science Center).

1998–2006 Member of editorial board for the educational research journal Stockholm Library of Curriculum Studies.

2003–2005 Vice President of the Board for the National Graduate School in Science and Technology Education, Linköping University.

2003–2004 Regular member of the Board of Stockholm Institute of Education.

2002–2004 Member of the National Committee for Biology at the Royal Academy of Sciences.

2002–2004 Member of the board for collaboration between Stockholm Institute of Education and the Royal Institute of Technology.

2000–2002 Deputy member of the Board of Stockholm Institute of Education.

2001 Vice President of the interim board for the Swedish Association for Research in Science Education.

1995–2000 Director for developing diploma courses in science education at Stockholm Institute of Education.

1994–2000 Member of the jury for the annual competition arranged by the Federation of Young Scientists.

1998–1999 Member of the committee on gender issues at Stockholm Institute of Education.

1996–1997 Member of the election committee for President of Stockholm Institute of Education.
1992–1996 Program Director of Primary School Teacher Education in Biology at Stockholm University.
1992–1996 Director of Fauna Studies at the Dept of Biology Education and Dept of Zoology, Stockholm University.
1990 Member of the Program Board for Teacher Education at Kalmar University College.

Affiliations (Societies)

Linnean Society of London
Royal Swedish Academy of Sciences

Organizing Conferences

International

2010 *Learning, Assessment of Knowledge, and Grading*. A Seminar organized by the Committee for Science and Education at the Royal Swedish Academy of Sciences
2008 Conference on Teacher Education in the Nordic Countries, Stockholm University, Stockholm.
2007 *Pre-conference for Nobel Symposium on Science Education*, Royal Academy of Sciences, Stockholm.
2007 *Promoting Scientific Literacy: Science Education Research in Transaction*, Linneus Conference, Uppsala University
2006 *Science is Primary*, Royal Academy of Sciences, Stockholm.
2006 Seminar concerning the working conditions of teachers in mathematics and science, Royal Academy of Sciences, Stockholm

National

2008 Swedish Association for Research in Science Education (FND), Stockholm University, Stockholm.

Reviewer

Journals

Education: CoDesign, Cultural Studies in Science Education, Education & Didactique, Forskning om undervisning och lärande, The International Journal on Mathematics Education, Interchange, International Journal of Science Education, Journal of Research in Science Teaching, Nordic Muesology, Nordic Studies in Education, Nordina, Pedagogisk forskning i Sverige, Pedagogies, Professional Development in Education, Scandinavian Journal of Educational Research, Science Education, Science & Education, Stockholm Library of Curriculum Studies, Sustainable Cities and Society.

Biology: American Naturalist, Animal Behaviour, Behavioral Ecology, Behavioral Ecology and Sociobiology, Biological Journal of the Linnean Society, Ecological Entomology, Ethology, European Journal of Entomology, Functional Ecology, Holarctic Ecology, Journal of Ethology, Journal of Insect Behavior, Journal of the Lepidopterists' Society, Nota Lepidopterologica, Oikos, Proceedings of the Royal Society ser B, Revista de Biología Tropical

Monographs

Education: Routledge, Studentlitteratur, Conference proceeding from the Nordic Research Symposium on School Science, Expert for an anthology on the history of science education research to be published by the National Association for Research in Science Teaching (NARST, USA), Swedish translation of “Orbis Sensualium Pictus” by Johan Amos Comenius. Report on inquiry based learning from the International Academy Panel. Handbook on Research on Science Education (2nd ed).

Biology: The anthology Ecology of Butterflies in Europe published by Cambridge University Press.

Research Proposals to Research Foundations

Fonds National de la Recherche, Luxembourg

Natural Environment Research Council, UK

Swedish Research Council

Swedish Foundation for International Cooperation in Research and Higher Education

The National Science Foundation, Washington D.C., USA.

Conference Proposals

European Science Education Research Conference (ESERA), National Association for Research in Science Teaching (NARST), Nordic Research Symposium on Science Education (NFSUN)

Thesis for Doctor's Degree, Docentship, Professorship and Awards

Member of referee panel at the defense of PhD thesis: Dept. of Zoology, Uppsala University, 1994; Dept. of Ecology, Lund University, 1995; Dept of Education, Gothenburg University, 2006; Dept. of Culture, Society and Learning, Stockholm Institute of Education, 2007, Dept. of Social and Welfare Studies, Linköping University, 2008; Dept of Education in Arts and Professions, Stockholm University, 2010; Dept of Zoology, Stockholm University, 2011; Faculty of Education and Society, Malmö University, 2012; Faculty of Education and Society, Malmö University, 2015; Department of Science and Mathematics Education, Umeå University, 2015; Department of Education, Communication and Learning, Gothenburg University, 2019.

Referee committee of a PhD thesis in education: Deakin University, Melbourne, Australia, 2006; The University of Melbourne, Australia, 2012; Deakin University, Melbourne, Australia, 2016.

Faculty opponent at the defence of PhD thesis: Dept. of Education, University of Gothenburg, 2003; Dept. of Technology and Social Change, Linköping University, 2003; Dept. of Teacher Training, Uppsala University, 2004; Steno Institute, University of Aarhus, 2006, Dept. of Social and Welfare Studies, Linköping University, 2007; Dept. of Applied Information Technology, University of Gothenburg, 2012; Faculty of Mathematics and Natural Sciences, University of Oslo, 2014; Department of Physics, University of Gothenburg, 2014; Department of Engineering and Chemistry, Karlstad University, 2020.

Docentship: PhD Jan Schoultz docentship in Pedagogic Practices, Linköping University, 2004. PhD Tore West docentship in Didactics, Stockholm University, 2008. PhD Mariana Hagberg docentship in biology education, Karlstad University, 2011. PhD Dawn Sander docentship in Education, University of Gothenburg, 2012. PhD Claes Malmberg docentship in science education, Malmö University. Anneli Frelin, docentship in didactics, Uppsala University, 2014.

Professorship: Promotion Dr. Dawn Sanders, University of Gothenburg, 2013. Promotion Dr. Christina Ottander, Umeå University, 2017. Promotion Dr. Anna Danielsson, Uppsala University, 2017. Promotion Dr. Astrid Sinnes, Norwegian University of Life Sciences, 2018. Promotion Dr. Maija Aksela, Helsinki University, 2019.

Promotion to Associate Professor: Department of Mathematics and Science Education, Illinois Institute of Technology, 2010 and 2011.

Awards: Distinguished Faculty Scholar Award, Western Michigan University, 2007 and 2008. NARST Early Career Award 2007 and 2008. National Institute for Excellence in Education, Norwegian Agency for Quality Assurance in Education 2011.

Positions at Universities

Professor in Science Education, University of Oslo, 2014.

Associate Professor in Science Education, Lund University, 2012

Associate Professor in Science Education, Kristianstad University College, 2010

Associate Professor in Science Education, Linköping University, 2006.

Associate Professor in Science Education, Malmö University, 2002.

Associate Professor in Biology Education, Kalmar University College, 2001

Awards

2019 Awarded the NARST Publications Advisory Committee for the NSTA *Research Worth Reading* initiative for the article: Ünsal, Z., Jakobson, B., Wickman, P.-O., & Molander, B.-O. (2018). Gesticulating science: Emergent bilingual students' use of gestures. *Journal of Research in Science Teaching* 55(1), 121-144.

2016 Elected fellow of the Royal Swedish Academy of Sciences, Class X for Humanities and for Outstanding Services to Science.

2015 Hamza, K., Piqueras, J., Wickman, P.-O. & Angelin, M. (2015). *Using peer review to support epistemic school lab practices*. Contribution to the symposium *Current challenges about epistemic practices and scientific practices in science education*. European Conference for Educational Research (ESERA), Helsinki, Finland. The symposium was awarded to represent the ESERA conference 2015 at the National Association for Research in Science Teaching, Baltimore, USA, 2016.

2011 The distinguished paper award of the journal *Cultural Studies of Science Education* for the paper: Arvola-Orlander, A. & Wickman, P.-O. (2011) Bodily Experiences in Secondary School Biology. *Cultural Studies in Science Education*, 6(3), 569-594

Invitations to Universities and Conferences

2020 Seminar at the College of Teacher Education, East China Normal University

2020 Seminar at Universidade de Brasília, Brazil

2020 Seminar PhD course education, Malmö University

2020 Seminar at MINT, Uppsala University

2019 Invited to organize symposium Aesthetics in Science Education with Professor Leslie Atkins Elliott at the European Science Education Research Association Conference, Bologna, Italy.

2019 Keynote Nationell Estetisk Kongress [National Aesthetic Convention] at Per Brahegymnasiet, Jönköping.

2019 Keynote LUMAT Research Forum, Helsinki University

2019 Invited speaker at the 75th International Conference of the Korean Association for Science Education, Korea National University of Education.

2019 Seminar at Department of Science Education, Seoul National University, Korea

2018 Seminar at Faculty of Arts and Education, Deakin University, Melbourne, Australia

- 2018 Keynote at “Contemporary approaches to research in mathematics, science, health and environmental education symposium” at Deakin University, Melbourne, Australia.
- 2018 Keynote “Lärarnas forskningskonferens” [Teachers’ research conference] at Tumba gymnasium, Stockholm.
- 2018 Department of Education, Communication and Learning, University of Gothenburg, panel for thesis manuscript
- 2017 Lecture PhD course “Perspectives on learning”, Department of Education, Communication and Learning, University of Gothenburg
- 2017 Discussant at the Symposium Analyzing interactions in multilingual science classrooms (Chairperson Wilmes, S.E.D., University of Luxembourg). European Conference for Educational Research (ESERA), Dublin, Ireland.
- 2017 Royal Swedish Academy of Sciences, invited presentation at a seminar on Knowledge relativism and pseudo science in school
- 2016 Faculty of Education and Society, Malmö University, panel for thesis manuscript
- 2016 Faculty of Education and Society, Malmö University, seminar on didactics
- 2016 Regional School Development Centre, Karlstad University
- 2016 Keynote National Subjects Didactics Conference (Nationell ämnesdidaktisk konferens)
- 2015 Mid Sweden University, Department of Science Education and Mathematics
- 2015 University of Oslo, Department of Teacher Education and School Research
- 2015 Swedish National Agency for Education, Conference for the Science and Technology Venture, High school
- 2014 Ministry of Education, seminar on didactics.
- 2014 Keynote at the launching conference for the Science and Technology Venture of the Swedish National Agency for Education, Stockholm.
- 2014 Keynote at 2nd International PROFILES Conference, Freie Universität Berlin.
- 2014 Workshop organized by Cultural Studies of Science Education “Innovation and collaboration in cultural studies of science education: Towards an international research agenda” at the University of Luxembourg. Chaired strand “Emotions in teaching and learning”.
- 2014 Panel 8th Conference of ARDIST (Association pour la Recherche en Didactique des Sciences et des Technologies), Aix Marseille Université, Marseille.
- 2013 Panel member at the concluding discussion on didactics at the annual conference of the Swedish Research Council, Educational sciences, Stockholm University, Sweden
- 2013 Discussant at the Symposium Gruson, B., Loquet, M., Meyer, M., Trautmann, M. & Hudson, B. Teaching-learning as joint action. On the development of a common theoretical background for didactics in Europe. European Conference on Educational Research, Istanbul, Turkey.
- 2013 Department of Social and Welfare Studies, Linköping University.
- 2012 Pre-seminar “Biodiversity education” of the Finnish Educational Research Association, Helsinki.
- 2012 University of Oslo, PhD course “Developing functional scientific literacy by school science teaching”.
- 2012 Faculty of Education and Society, Malmö University
- 2012 Department of Curriculum and Instruction, University of Illinois
- 2012 Discussant at the Symposium Gruson, B., Loquet, M., Meyer, M., Trautmann, M. & Hudson, B. The Joint Action Theory in Didactics: Contributions to Comparative Didactics in Europe. European Conference on Educational Research, Cádiz, Spain.
- 2012 Departamento Didactica das Ciencias Experimentis, Universidade de Santiago de Compostela

2012 SPUCK (Swedish Chemistry University Teachers Central Conference) XV, Umeå University.
 2012 School of Humanities, Education and Social Sciences, Örebro University
 2012 The Royal Academy of Sciences
 2012 Engineering Education Research & Development, Royal Institute of Technology
 2011 Department of Education, Stockholm University
 2011 Uppsala University
 2011 Kristianstad University College
 2010 The Swedish School of Sport and Health Sciences
 2010 Swedish National Agency for Education
 2010 Faculté de Psychologie et des Sciences de l'Éducation, Université de Genève
 2010 Dept. of Social and Welfare Studies, Stockholm University
 2009 School of Teacher Education, Malmö University College
 2009 Swedish National Agency for Education
 2009 The Swedish School of Sport and Health Sciences
 2009 Visiting professor 3 months, Illinois Institute of Technology, Dept of Mathematics and Science Education
 2008 Växjö University, Regional Development Centre
 2008 Colloquium Le Centre de recherches sur l'éducation, les apprentissages et la didactique, University of Rennes 2, France
 2008 Faculty of Education, University of Hong Kong
 2008 Department of Education, Uppsala University
 2008 Department of Education, Göteborg University
 2008 Berlin-Brandenburgisches Colloquium in Physics Education, Potsdam University, Germany
 2007 School of Teacher Education, Malmö University College
 2007 The National Conference of Swedish Science Teacher Educators, Umeå University
 2007 Dept. of Teacher Education, Halmstad University
 2007 Dept. of Applied Sciences of Education, Helsinki University
 2007 International History Philosophy and Science Teaching Conference, Calgary, Canada.
 2007 Invited to the 2007 Gordon Conference on Chemistry Education but could not attend
 2006 Electronic conference: "Actions for the 2010 biodiversity target in Europe– how does research contribute to halting biodiversity loss?"
 2006 Dept. of Mathematics and Science, Kristianstad University
 2006 Dept. of Biology, Karlstad University
 2006 Dept. of Education, Göteborg University
 2006 Dept. of Physics, Stockholm University
 2006 Dept. of Teacher Training, Uppsala University
 2006 Department of Mathematics and Science Education, Illinois Institute of Technology
 2006 Annual Conference of the National Science Teacher Association (NSTA) & International Council of Associations for Science Education (ICASE), Anaheim, California
 2006 Dept. of Social and Cultural Studies in Education, Stockholm Institute of Education
 2005 School of Education and Communication, and School of Engineering, Jönköping University
 2005 Workshop about the school situation in Sweden at the Royal Academy of Sciences
 2005 Dept. of Mathematics and Science, Kristianstad University
 2005 Conference "God & Darwin" (on religion and science in education) at Stockholm Institute of Education
 2005 Department of Mathematics and Science Education, Illinois Institute of Technology

2005 Beijing Institute of Education
 2005 Dept. of Education, Gothenburg University
 2005 International workshop organized by the InterAcademy Panel (International organization for Science Academies world-wide) on inquiry based learning at the Royal Academy of Sciences
 2005 National Conference for Science Teacher Educators, Malmö University
 2005 Dept. of Molecular Biology and Functional Genomics, Stockholm University
 2005 Dept. of Philosophy, Åbo Academy University
 2004 Dept. of Education, Örebro University
 2003 Dept. of Mathematics and Physics, Mälardalen University
 2003 Dept. of Behavioral Sciences, Kristianstad University
 2003 Dept. of Biology and Environmental Sciences, Kalmar University
 2003 National Symposium for dentist educators, Saltsjöbaden
 2002 Dept. of Education, Gothenburg University
 2002 Dept. of Education, Stockholm University
 2002 Symposium for university teachers at Mälardalens University
 2002 Symposium for university teachers at Linköpings University
 2002 Dept. of Biology, Karlstad University
 2001 Dept. of Mathematics and Science, Kristianstad University.
 2001 Symposium at European Science Education Research Association, Thessalonike
 2001 Norwegian Academy of Technological Sciences, Trondheim
 2000 National Symposium for teacher educators and regional directors arranged by Swedish National Agency of Education.
 1998 LUMA (Conference for science and mathematics teachers arranged by the Finish National Board of Education), Helsinki
 1998 Dept. of Chemical Technology, Royal Institute of Technology, Stockholm,
 1998 and 1999 Conferences for university teachers, Faculty of Technology and Science, Uppsala University.
 1996 Dept of Botany, Gothenburg University
 1995 Dept of Ecology, Lund University
 1995 Smithsonian Tropical Research Institute, Panama
 1995 International Ethology Conference at the University of Hawaii at Manoa

Publications

Peer-Reviewed Journals

1. Lima Junior, P., Anderhag, P. & Wickman, P.-O. (2021). How does a teacher distinguish himself as a good professional? An inquiry into the aesthetics of taste for teaching. *International Journal of Science Education*. On line first, <https://doi.org/10.1080/09500693.2021.1958392>
2. Wickman, P.-O., Prain, V. & Tytler, R. (2021). Aesthetics, affect, and making meaning in science education: An introduction. *International Journal of Science Education*. On line first, <https://doi.org/10.1080/09500693.2021.1912434>
3. Hannigan, S., Wickman, P.-O., Ferguson, J. P., Prain, V. & Tytler, R. (2021). The role of aesthetics in learning science in an art-science lesson. *International Journal of Science Education*. On line first, <https://doi.org/10.1080/09500693.2021.1909773>
4. Ünsal, Z., Jakobson, B., Wickman, P.-O. & Molander, B. (2020). Jumping Pepper and Electrons in the Shoe: Using Physical Artefacts in a Multilingual Science Class. *International Journal of Science Education*, 42(14), 2387–2406. <https://doi.org/10.1080/09500693.2019.1650399>

5. Kondrup Hardahl, L., Wickman, P.-O. & Caiman, C. (2019). The body and the production of phenomena in the science laboratory: taking charge of a tacit science content. *Science & Education*, 28, 865–895. <https://doi.org/10.1007/s11191-019-00063-z>
6. Wickman, P.-O., Hamza, K. & Lundegård, I. (2018). Didaktik och didaktiska modeller för undervisning i naturvetenskapliga ämnen [Didactics and didactic modeling in science education]. *Nordic Studies in Science Education*, 14(3), 239–249.
7. Seifeddine Ehdwall, D. & Wickman, P.-O. (2018). Hur lärare kan stödja andraspråkselever på gymnasiet att tala kemi [How teachers can support students with a second language in upper secondary school to talk chemistry]. *Nordic Studies in Science Education*, 14(3), 299–316.
8. Ünsal, Z., Jakobson, B., Wickman, P.-O. & Molander, B.-O. (2018). Gesticulating science: Emergent bilingual students' use of gestures. *Journal of Research in Science Teaching*, 55(1), 121-144.
9. Johansson, A.-M. & Wickman, P.-O. (2018). The use of organizing purposes in science instruction as a scaffolding mechanism to support progression: a study of talk in two primary science classrooms. *Research in Science & Technological Education*, 36(1), 1-16.
10. Olander, C., Wickman, P.-O., Tytler, R. & Ingerman, Å. (2018). Representations as mediation between purposes as junior secondary science students learn about the human body. *International Journal of Science Education*, 40(2), 204-226. DOI 10.1080/09500693.2017.1407464
11. Hamza, K., Palm, O., Palmqvist, J., Piqueras, J., & Wickman, P.-O. (2018). Hybridization of practices in teacher-researcher collaboration. *European Educational Research Journal*, 17(1), 170-186. DOI 10.1177/1474904117693850
12. Ünsal, Z., Jakobson, B., Molander, B.-O. & Wickman, P.-O. (2018). Science education in a bilingual class: problematising a translational practice. *Cultural Studies of Science Education*, 13, 317-340. DOI 10.1007/s11422-016-9747-3
13. Hamza, K., Piqueras, J., Wickman, P.-O. & Angelin, M. (2018). Who owns the content and who runs the risk? Dynamics of teacher change in teacher-researcher collaboration. *Research in Science Education*, 48(5), 963-987. DOI 10.1007/s11165-016-9594-y
14. Ünsal, Z., Jakobson, B., Molander, B.-O. & Wickman, P.-O. (2018). Language use in a multi-lingual class: A study of the relation between bilingual students' languages and their meaning-making in science. *Research in Science Education*, 48, 1027-1048. DOI 10.1007/s11165-016-9597-8
15. Anderhag, P., Wickman, P.-O., Bergqvist, K., Jakobson, B., Hamza, K. & Säljö, R. (2016). Why do secondary school students lose their interest in science? Or does it never emerge? A possible and overlooked explanation. *Science Education*, 100(5), 791–813.
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129. Wickman, P.-O. & Persson, H. (2008) Naturvetenskap och naturorienterande ämnen i grundskolan: En ämnesdidaktisk vägledning. [In Swedish: *Science and School Science: A Research Based Guide*] 280 pp. Stockholm: Liber.
130. Karlsson, J., Molander, B.-O., & Wickman, P.-O. (2007). *Biologi B*. 3:e upplagan [In Swedish: *Biology for upper secondary school B*. Third edition]. Liber utbildning, Stockholm.
131. Linder, C., Östman, L. & Wickman, P.-O. (Eds.) (2007) *Proceedings of the Linnaeus Tercentenary Symposium: Promoting Scientific Literacy: Science Education Research in Transaction*. Uppsala University, Sweden. 151 pp.
132. Wickman, P.-O. (2006). *Aesthetic Experience in Science Education: Learning and Meaning-Making as Situated Talk and Action*. Mahwah, New Jersey: Lawrence Erlbaum Associates. 200 pp.
133. Karlsson, J., Krigsman, T., Molander, B.-O. & Wickman, P.-O. (2005). *Biologi med naturkunskap A*. 3:e upplagan. [In Swedish: *Biology and General Science for upper secondary school A*. Third edition] Liber utbildning, Stockholm.

134. Lundegård, I., Wollin, A. & Wickman, P.-O. (Eds.) (2004) *Utomhusdidaktik*. [In Swedish: Outdoor Education.] Studentlitteratur, Lund. 209 pp.
135. Karlsson, J., Molander, B.-O. & Wickman, P.-O. (2001). *Biologi B. 2:a upplagan*. [In Swedish: *Biology for upper secondary school 2*. Second edition] Liber utbildning, Stockholm.
136. Karlsson, J., Krigsman, T., Molander, B.-O. & Wickman, P.-O. (2000). *Biologi med naturkunskap A. 2:a upplagan*. [In Swedish: *Biology and General Science for upper secondary school A*. Second edition] Liber utbildning, Stockholm.
137. Karlsson, K.G., Karlsson, J., Molander, B.-O. & Wickman, P.-O. (2000). *Naturkunskap B*. [In Swedish: *General Science B*.] Liber, Stockholm.
138. Wickman, P.-O. (1997). Grundskollärlinjens framväxt – LUT 74. [In Swedish: The development of the teacher education reform of 1974] *Häften för didaktiska studier* 61. HLS förlag, Stockholm.
139. Karlsson, J., Molander, B.-O. & Wickman, P.-O. (1995). *Biologi 2 för gymnasieskolan*. [In Swedish: *Biology for upper secondary school 2*.] Liber utbildning, Stockholm.
140. Karlsson, J., Krigsman, T., Molander, B.-O. & Wickman, P.-O. (1994). *Biologi 1 med naturkunskap för gymnasieskolan*. [In Swedish: *Biology and General Science for upper secondary school 1*.] Liber utbildning, Stockholm.
141. Karlsson, J., Molander, B.-O., Wickman, P.-O., Nyholm, K.-G., Suneson, S & Österlind, S. (1990). *Gymnasiebiologi 2. Laborationer 2*. [In Swedish: *Biology for upper secondary school 2. Laboratory practicals 2*.] Almqvist & Wiksell Läromedel, Solna.
142. Nyholm, K.-G., Suneson, S., Österlind, S., Karlsson, J., Molander, B.-O. & Wickman, P.-O. (1989). *Gymnasiebiologi 1*. [In Swedish: *Biology for upper secondary school 1*.] Esselte Studium, Solna.
143. Karlsson, J., Molander, B.-O. & Wickman, P.-O. (1989). *Gymnasiebiologi 1. Laborationer 1*. [In Swedish: *Biology for upper secondary school 1. Laboratory practicals 1*.] Esselte Studium, Solna.
144. Wickman, P.-O. (1987). *Mate searching behaviour of satyrine butterflies*. PhD Thesis. Department of Zoology, Stockholm University.

Reviews

145. Wickman, P.-O. (2008) Review of *Falling for Science: Objects in Mind* by Sherry Turkle. Teachers College Record, Sep 03, 2008, <http://www.tcrecord.org>, ID number 15360.
146. Wickman, P.-O. (2004) Margareta Svennbecks *Omsorg om naturen. Om NO-utbildningens selektiva traditioner med fokus på miljöfostran och genus*. [In Swedish: A review of a dissertation on science and environmental education.] *Pedagogisk forskning i Sverige*, 9, 147-149.

Commissioned Reports

147. Anderhag, P. & Wickman, P.-O. (2020). Rapport forskningsdelen NTA-projekt väst Juni 2020 [In Swedish: Report from developmental project in western Stockholm in science and technology for primary and pre-school children]. Utbildningsförvaltningen, Stockholms stad.
148. Wickman, P.-O (2014). Forskningsöversikt ämnesdidaktik naturvetenskap, matematik och teknik. Rapport till Vetenskapsrådet. [In Swedish: Review of Research in Science, Mathematics and Technology Subject Didactics. Report to the Swedish Research Council.]

149. Wickman, P.-O. (2008). Kursplanen för grundskolans naturorienterande ämnen: syften, mål, innehåll och progression. Rapport till Skolverket. [In Swedish: The science syllabus for compulsory school: purposes, aims, contents, and progression. Report to the Ministry of Education.]
150. Anderhag, P. & Wickman, P.-O. (2007). *An evaluation of how NTA is helping schools to attain the Science Studies syllabus goals at the grade 5 level*. Rapport i didaktik, no 4, okt 2007.
151. Anderhag, P. & Wickman, P.-O. (2006). *NTA som kompetensutveckling för lärare. Utvärdering av hur lärares deltagande i NTA utvecklar deras kompetens att stödja elevernas begrepps- och språkutveckling*. [In Swedish: *Half-time report: NTA as competence enhancement for teachers. An evaluation about how teacher participation in NTA develop their competence in supporting the conceptual and lingual development of students*.] Rapport i didaktik, no 2, dec 2006.
152. Wickman, P.-O. (2005). *Utvecklingen av NTA 6-9*. [In Swedish: *The progress of NTA 6-9*.] Science and Technology for All, Royal Academy of Sciences and Royal Academy of Engineering Sciences, Stockholm.
153. Wickman, P.-O. (2002). *Rapport angående NTA 7-9 under åren 2002 och 2003*. [In Swedish: *Report on NTA 7-9 during the years 2002 and 2003*.] Science and Technology for All, Royal Academy of Sciences and Royal Academy of Engineering Sciences, Stockholm.
154. Wickman, P.-O. (2001). *NTA år 7-9: rapport för NTA-projektet* [In Swedish: *NTA grades 7-9: a report to the NTA-project*.] Science and Technology for All, Royal Academy of Sciences and Royal Academy of Engineering Sciences, Stockholm.
155. Nylin, S. & Wickman, P.-O. (1987). *Ekologiundervisning i närmiljö på norra Djurgården*. [In Swedish: *Teaching ecology in the surroundings of Stockholm University*.] Pedagogisk Utvecklingsrapport 1987:1. Stockholm University.
156. Lindström, L., Falkevall, B., Julin-Tegelman, Å. & Wickman, P.-O. (2000). *Examensarbetet*. [In Swedish: *Diploma work*.] FoU-rapport 99/00. Department of Curriculum Studies and Communication, Stockholm Institute of Education.

Conference Contributions (papers if not otherwise stated)

157. Wickman, P.-O. & Anderhag, P. (2021). Kunskapsintressen som en modell I förskolans didaktiska utvecklingsarbete. Konferens Naturvetenskap för 20-talets förskola – vad, hur och varför? Högskolan Kristianstad.
158. Anderhag, P. & Wickman, P.-O. (2019). Förskolebarns smak för naturvetenskap: vad kännetecknar den och hur kan den utvecklas? [In Swedish: *Preschool children's taste for science: What is its characteristics and how can it be developed?*] Lärarnas forskningskonferens, Stockholm.
159. Wickman, P.-O. (2019). Reading Dewey as a scientist. 5th Swedish Pragmatist Colloquium on Education and Transaction. Uppsala University, Sweden.
160. Wickman, P.-O., Hannigan, S., Ferguson, J., Prain, V. & Tytler, R. (2019). The role of aesthetics in learning science: Examining an integrated art-science lesson. Invited symposium (chair: Wickman P.-O & Atkins Elliott, L.) at European Conference for Educational Research (ESERA), Bologna, Italy.
161. Kondrup Hardahl, L., Wickman, P.-O., & Caiman, C. (2019). The bodily production of phenomena in the science laboratory: Recognizing an overlooked content. European Conference for Educational Research (ESERA), Bologna, Italy.
162. Wickman, P.-O. (2018). Didactics and didactic models in science education. Keynote at "Contemporary approaches to research in mathematics, science, health and environmental education symposium" at Deakin University, Melbourne, Australia.

163. Wickman, P.-O. & Anderhag, P. (2018). How can teachers notice and develop students' interest in science? STEM Education Conference, Deakin University, Melbourne, Australia.
164. Wickman, P.-O. (2017). Discussant at the symposium Analyzing interactions in multilingual science classrooms (Chair Wilmes, S.E.D.). European Conference for Educational Research (ESERA), Dublin, Ireland.
165. Verma, G., Wickman, P.-O. & Kozma, C. (2017). Creating inclusive learning opportunities for newly arrived students in Sweden: Examining an afterschool program. European Conference for Educational Research (ESERA), Dublin, Ireland.
166. Ehdwall, D.S. & Wickman, P.-O. (2017). How can a teacher support students with a second language to talk chemistry? Poster presented European Conference for Educational Research (ESERA), Dublin, Ireland.
167. Olander, C., Ingeman, Å., Tytler, R. & Wickman, P.-O. (2017). Representations as representational means in students' meaning-making about the human body. European Conference for Educational Research (ESERA), Dublin, Ireland.
168. Ehdwall, D.S. & Wickman, P.-O. (2016) Att undervisa nyanlända i naturvetenskap på gymnasiet: Var börjar man som lärare? [In Swedish: Teaching newly arrived immigrants science in high school: Where to begin?]. Stockholms stads konferens Leda lärande [Conference of the City of Stockholm: Leading learning], Stockholm.
169. Olander, C., Wickman, P.-O., Tytler, R. & Ingeman, Å. (2016). Representations as mediation when learning about the human body in lower secondary. Conference of European Researchers in Didactics of Biology (ERIDOB), Karlstad, Sweden.
170. Wickman, P.-O. (2016). Didaktik: lärares professionsvetenskap [In Swedish: Didactics: teachers' professional discipline.] Nationell ämnesdidaktisk konferens [National Subject Didactics Conference], Malmö, Sweden. Invited keynote.
171. Wickman, P.-O. (2016) Formalbildning och "generic competencies" [In Swedish: Formal Bildung and generic competencies]. Nationell ämnesdidaktisk konferens [National Subject Didactics Conference], Malmö, Sweden.
172. Wickman, P.-O. (2016) Discussant at the symposium Learning Study: studier av lärandeobjektets beskaffenhet och konstituering [In Swedish: Learning Study; Studies of the structure and constitution of the learning object]. Nationell ämnesdidaktisk konferens [National Subject Didactics Conference], Malmö, Sweden.
173. Hamza, K., Piqueras, J., Wickman, P.-O. & Angelin, M. (2016). *Using peer review to support epistemic school lab practices*. Contribution to the symposium Current challenges about epistemic practices and scientific practices in science education. National Association for Research in Science Teaching, Baltimore, USA. The symposium was awarded by the European Conference for Educational Research (ESERA), Helsinki, Finland, 2015 to represent ESERA at NARST.
174. Wickman, P.-O. (2015). Didaktik: lärares professionsvetenskap [In Swedish: Didactics: teachers' professional discipline.] Stockholms stads konferens Leda lärande [Conference of the City of Stockholm: Leading learning], Stockholm.
175. Wickman, P.-O. & Olin, A. (2015). *How may a teachers' professional discipline be supported? Findings from professional development*. Contribution to the symposium Perspectives on professional learning. European Conference for Educational Research, Helsinki, Finland.
176. Hamza, K., Piqueras, J., Wickman, P.-O. & Angelin, M. (2015). *Using peer review to support epistemic school lab practices*. Contribution to the symposium Current

- challenges about epistemic practices and scientific practices in science education. European Conference for Educational Research (ESERA), Helsinki, Finland. The symposium was awarded to represent the ESERA conference 2015 at the National Association for Research in Science Teaching, Baltimore, USA, 2016.
177. Wickman, P.-O. (2015) *Discussant at the symposium Researching the dynamics of teaching and learning science: Sociocultural and discursive approaches incorporating position theory*. European Conference for Educational Research, Helsinki, Finland.
 178. Anderhag, P. & Wickman, P.-O. (2015). *Taste for science: Bridging the Cartesian divide between interest and cognitive learning in science?* Contribution to the symposium Beyond cognition in science education: Considering the role of emotions, well-being, and aesthetics. European Conference for Educational Research, Helsinki, Finland.
 179. Unsal, Z., Jakobson, B., Molander, B.-O. & Wickman, P.-O. (2015). *Science education in a multilingual class: problematizing a translational perspective*. Contribution to the symposium Multilingual, multimodal, and multicultural factors in science education. European Conference for Educational Research, Helsinki, Finland.
 180. Jakobson, B. & Wickman, P.-O. (2015). *Children's spontaneous metaphors in elementary school science*. Contribution to the symposium Multilingual, multimodal, and multicultural factors in science education. European Conference for Educational Research, Helsinki, Finland.
 181. Wickman, P.-O. (2015). *Teaching learning progressions: An international perspective*. Contribution to Strand sponsored symposium–The Handbook of Research on Science Education: Implications for Inservice Teacher Education. National Association for Research in Science Teaching, Chicago.
 182. Wickman, P.-O. (2015). *Didaktik: lärarens vetenskap*. Ma/Nv-Bienette. Stockholms universitet.
 183. Wickman, P.-O., Jakobson, B. & Anderhag, P. (2014). *Taste and aesthetic experience in science education*. 4th Swedish Pragmatism Colloquium on Education, October 30, 2014, Uppsala University, Sweden.
 184. Johansson, A.-M. & Wickman, P.-O. (2014). *Using organizing purposes to support teacher practice*. 4th Swedish Pragmatism Colloquium on Education, October 30, 2014, Uppsala University, Sweden.
 185. Wickman, P.-O. & Östman, L. (2014). *A pragmatic approach to didactic modelling and analysis*. Contribution to the symposium Multivocal analyses of a teaching unit: "When dancing is taught in English" in primary school. European Conference for Educational Research, Porto, Portugal.
 186. Wickman, P.-O., Piqueras, J., Hamza, K. & Angelin, M. (2014). *How researchers can support teacher change: Lessons from Swedish secondary school*. Contribution to the symposium Towards a sustainable change of teachers' professional development. Nordic Research Symposium on science education (NFSUN) 2014, Helsinki, Finland.
 187. Wickman, P.-O., Hamza, K., & Piqueras, J. (2013). *Transforming epistemic practices in science education*. Contribution to the symposium Teaching and/as epistemic practice. European Conference of Educational Research, Istanbul, Turkey.
 188. Anderhag, P., Wickman, P.-O., & Hamza, K. (2013). What difference can a teacher make for the constitution of taste in the science classroom? 10th International Conference of the European Science Education Research Association, Nicosia, Cyprus.
 189. Piqueras, J., Hamza, K., Wickman, P.-O. & Angelin, M. (2013). *Risk taking and change in a science teacher professional development program*. Contribution to the symposium Using research insights to support teachers' learning and agency to teach

- science. 10th International Conference of the European Science Education Research Association, Nicosia, Cyprus.
190. Andrée, M. & Wickman, P.-O. (2013). *Remembering as access points for scientific literacy*. Contribution to the symposium Access points to scientific literacy: learning arrangements and student meaning making. Conference of the European Association for Research on Learning and Instruction. München, Germany.
 191. Piqueras, J., Hamza, K., Wickman, P.-O. & Angelin, M. (2013). *Enacting the Purposes of Epistemic Practices to Promote Learning in Secondary Science*. National Association for Research in Science Teaching, Puerto Rico.
 192. Anderhag, P. & Wickman, P.-O. (2012). *Signs of taste for science: A methodology for studying the constitution of interest in the science classroom*. European Conference on Educational Research, Cádiz, Spain.
 193. Wickman, P.-O. & Johansson, A.-M. (2012). Organizing purposes to support students' semiosis and science learning. Paper presented at the symposium Learning science through engaging with its representational practices. Chair Russell Tytler. American Educational Research Association, Vancouver, Canada.
 194. Wickman, P.-O. (2011). *Practical epistemologies as beliefs or as action*. Paper presented at the 9th International Conference of the European Science Education Research Association, Lyon, France.
 195. Andrée, M., Lager-Nyqvist, L., & Wickman, P.-O. (2011). *Play with science in inquiry based science education*. Paper presented at the 9th International Conference of the European Science Education Research Association, Lyon, France.
 196. Johansson, A.-M. & Wickman, P.-O. (2011). Using organizing purposes to support semiotic resource use in school science. Paper presented at the symposium Learning science through engaging with its epistemic representational practices. Chair Russell Tytler. 9th International Conference of the European Science Education Research Association, Lyon, France.
 197. Wickman, P.-O. & Johansson, A.-M. (2011). *Using pragmatism in making semiotic resources meaningful in the science classroom*. Paper presented at the symposium Learning science through participation in its epistemic/symbolic language practices. Chair Russell Tytler. Conference of European Association for Research on Learning and Instruction, Exeter, England.
 198. Ligozat, F., Wickman, P.-O., & Hamza, K.M. (2011). Using practical epistemology analysis to study the teacher's and students' joint action in the mathematics classroom. Paper presented at the Seventh Conference of European Research in Mathematics Education, Rzeszów, Poland.
 199. Andrée, M., Lager-Nyqvist, L., & Wickman, P.-O. (2010) *Students' Ways of Using Prior Experience in Inquiry Based Science Education – the case of NTA*. European Conference on Educational Research, Helsinki, Finland.
 200. Gyllenpalm, J., Wickman, P.-O & Holmgren, S.-O. (2010) *Teachers' pedagogical use of inquiry related words – conflating means and ends*. Conference of the National Association for Research in Science Teaching, Philadelphia.
 201. Hamza, K.M. & Wickman, P.-O. (2010) *Grounding teaching in naturalistic descriptions of teacher and student action in the science classroom*. Conference of the National Association for Research in Science Teaching, Philadelphia.
 202. Östman, L., Wickman, P.-O., Almqvist, J. & Ligozat, F. (2009) *A pragmatist approach to scientific literacy*. European Conference on Educational Research, Vienna.
 203. Almqvist, J., Brickhouse, N.W., Lederman, J., Lederman, N.G., Ligozat, F., Östman, L., Sadler, T.D., Wickman, P.-O., Zeidler, D.L. (2009) *Exploring themes of scientific literacy*. At the symposium Exploring the landscape of scientific literacy: visions

- for research and practice. Chair Jim Ryder. European Science Education Research Association, Istanbul.
204. Lederman, N.G., Lederman, J.S., Wickman, P.-O. & Lager-Nyqvist, L. (2009). *An international, systematic investigation of the Relative effects of inquiry and direct instruction*. Annual Meeting of the Southern African Association for Research in Mathematics, Science, and Technology Education, Grahamstown, South Africa.
 205. Hamza, K.M. & Wickman, P.-O. (2008) *Reasoning about Electrochemical Cells in a Concept Mapping Activity and in the School Laboratory*. Concept Map Conference, Helsinki.
 206. Wickman, P.-O. & Östman, L. (2008) *Practical Epistemology Analysis: Introducing the approach*. At the symposium Pragmatic Epistemology Analysis and Joint Action Theory in Didactics. Chair Gérard Sensevy, IUFM de Bretagne, European Conference on Educational Research, Göteborg.
 207. Wickman, P.-O., Östman, L., Almqvist, J., Hamza, K., Lidar, M., & Lundqvist, E. (2008) *Practical Epistemology Analysis: Cognitive learning*. At the symposium Pragmatic Epistemology Analysis and Joint Action Theory in Didactics. Chair Gérard Sensevy, IUFM de Bretagne, European Conference on Educational Research, Göteborg.
 208. Östman, L., Wickman, P.-O., Jakobson, B., Lundegård, I., & Öhman, J. (2008) *Practical Epistemology Analysis: Aesthetic and moral learning*. At the symposium Pragmatic Epistemology Analysis and Joint Action Theory in Didactics. Chair Gérard Sensevy, IUFM de Bretagne, European Conference on Educational Research, Göteborg.
 209. Hamza, K.M., & Wickman, P.-O. (2008) *How do misconceptions of electrochemistry identified in interviews enter into students' reasoning in a more authentic setting?* Conference of the National Association for Research in Science Teaching, Baltimore.
 210. Lederman, N.G., Lederman, J., Wickman, P.-O., & Lager-Nyqvist, L. (2008) *An international, systematic investigation of the relative effects of inquiry and direct instruction: a replication study*. Conference of the National Association for Research in Science Teaching, Baltimore.
 211. Lederman, N.G., Lederman, J., Wickman, P.-O., & Lager-Nyqvist, L. (2007) *An international, systematic investigation of the relative effects of inquiry and direct instruction*. Conference of the National Association for Research in Science Teaching, New Orleans.
 212. Lederman, J., Lederman, N.G., Wickman, P.-O., & Lager-Nyqvist, L. (2007) *An international, systematic investigation of the relative effects of inquiry and direct instruction*. European Science Education Research Association, Conference, Malmö.
 213. Hamza, K. & Wickman, P.-O. (2007) *How do misconceptions of electrochemistry enter into students' reasoning during a practical task?* European Science Education Research Association, Conference, Malmö.
 214. Wickman, P.-O (2007) Respondent at the symposium *Aesthetic Experience in Science Education: Learning and Meaning-Making as Situated Talk and Action*. Chair: Michael Matthews, Discussants Daniel Meyer and Wendy Sherman. International History Philosophy and Science Teaching Conference, Calgary, Canada.
 215. Boström, A. & Wickman, P.-O. (2006) *Narrative meaning-making in chemistry education*. Conference of the National Association for Research in Science Teaching, San Francisco.
 216. Jakobson, B. & Wickman, P.-O. (2006) *Aesthetic distinction in elementary school science*. Conference of the National Association for Research in Science Teaching, San Francisco.

217. Lundegård, I. & Wickman, P.-O. (2006) *Conflicts of Interest, an Indispensable Element of Environmental Education*. Conference of the National Association for Research in Science Teaching, San Francisco.
218. Lundegård, I. & Wickman, P.-O. (2006) Biodiversity Education and/or Education for Sustainable Development. electronic conference. Invited keynote contribution to “Actions for the 2010 biodiversity target in Europe– how does research contribute to halting biodiversity loss?” (25th September - 13th October 2006).
219. Wickman, P.-O. (2006) The Swedish NTA program for primary science: its relation to inquiry. The Second European Conference on Primary Science and Technology Education: Science is Primary II. October 15 –17, 2006, Stockholm, Sweden
220. Östman, L. & Wickman, P.-O. (2005) *Practical Epistemology Analysis: Learning and the Interplay between Experience and Situated Action*. European Science Education Research Association, Conference, Barcelona
221. Wickman, L. & Östman, L. (2005) *Practical Epistemology Analysis*. European Science Education Research Association, Conference, Barcelona.
222. Wickman, P.-O. (2004) *Aesthetic experience in learning science*. Conference of the National Association for Research in Science Teaching, Vancouver.
223. Wickman, P.-O. & Jakobson, B. (2003) *Aesthetic experience in science education*. Conference of the European Association for Research on Learning and Instruction, Padova.
224. Wickman, P.-O & Östman, L. (2001) *Students’ practical epistemologies during laboratory work*. Conference of the American Educational Research Association, Seattle.
225. Östman, L. & Wickman, P.-O (2001) *Practical epistemology, learning and socialisation*. Conference of the American Educational Research Association, Seattle.
226. Wickman, P.-O. (2001) *NTA – A Swedish school project for science and technology*. European Science Education Research Association, Conference, Thessaloniki.
227. Wickman, P.-O. & Östman, L. (2000) *Induction as an empirical problem: how students generalize during practical work*. Conference of the National Association for Research in Science Teaching, New Orleans.
228. Wickman, P.-O. (1997) *The map as a metaphor for science*. ESERA, Rome.
229. Wickman, P.-O. & Östman, L. (1999) *University students during practical work: can we make the learning process intelligible*. ESERA, Kiel.

Software and websites

230. Angelin, M., Gyllenpalm, O., Wickman, P.-O., Bergmark, K., Dufåker, D., Fors, R., Forslin Aronsson, Å. & Stammering, P. (2017). Naturvetenskapens karaktär och arbetssätt [Nature of science and scientific inquiry]. Website Lärportalen: Skolverket.
231. Hamza, K., Olander, C., Palm, O., Piqueras, J. & Wickman, P.-O. (2016). Den tredje förmågens innebörd och centrala komponenter – årskurs 1–3. Website Lärportalen: Skolverket. Retrieved 2017-01-19.
232. Hamza, K., Olander, C., Wickman, P.-O., Piqueras, J. & Palm, O. (2016). Syften och progression i undervisning av förmåga 3 – årskurs 1–3. Website Lärportalen: Skolverket. Retrieved 2017-01-19.
233. Olander, C., Hamza, K., Palm, O., Piqueras, J. & Wickman, P.-O. (2016). Språkets roll för att utveckla förmågan att använda begrepp, modeller och teorier. Website Lärportalen: Skolverket. Retrieved 2017-01-09.
234. Contributed to the development of the web site Naturegate®, www.naturegate.fi (directed by Eija and Juoko Lehmuskallio in co-operation with Helsinki University).

Varia

Together with Pelle Gabrielsson, a primary science teacher, I have adapted [from English] and written parts of the following handbooks for teachers and students in primary school participating in the school program NTA:

- 235. Naturvetenskap och teknik för alla (2002) *Fjärilars liv: handledning för lärare*. [In Swedish: Science and Technology for All. *The life of butterflies: handbook for teachers*.] Royal Academy of Sciences and Royal Academy of Engineering Sciences, Stockholm.
- 236. Naturvetenskap och teknik för alla (2002) *Jord: handledning för lärare*. [In Swedish: Science and Technology for All. *Soil: handbook for teachers*.] Royal Academy of Sciences and Royal Academy of Engineering Sciences, Stockholm.
- 237. Naturvetenskap och teknik för alla (2002) *Jord: handledning för elever*. [In Swedish: Science and Technology for All. *Soil: handbook for students*.] Royal Academy of Sciences and Royal Academy of Engineering Sciences, Stockholm.
- 238. Naturvetenskap och teknik för alla (2001) *Från frö till frö: handledning för lärare*. [In Swedish: Science and Technology for All. *From seed to seed: handbook for teachers*.] Royal Academy of Sciences and Royal Academy of Engineering Sciences, Stockholm.
- 239. Naturvetenskap och teknik för alla (2001) *Från frö till frö: handledning för elever*. [In Swedish: Science and Technology for All. *From seed to seed: handbook for students*.] Royal Academy of Sciences and Royal Academy of Engineering Sciences, Stockholm.