

Curriculum Vitae – Erik Elfgrén

1 Personal Information

1.1 Name

Erik (Jonathan) Elfgrén



1.2 Born

December 21st, 1977,
Luleå, Sweden

1.3 Address

Mail: Energy Engineering, Luleå University of Technology, 971 87 Luleå, Sweden

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1.4 Present Employment

2011– Senior Lecturer in Energy Engineering

(10% research, 90% teaching)

Department of Engineering Science and Mathematics,
Luleå University of Technology (LTU), Sweden.

1.5 Previous Employment

2010–2011 Post-doc in Energy Engineering

(40% research, 60% teaching)

Department of Engineering Science and Mathematics,
Luleå University of Technology (LTU), Sweden.

2008–2009 Acting Senior Lecturer

(70% teaching, 30% as Director of the National Graduate School of Space Technology)

Department of Applied Physics and Mechanical Engineering, LTU.

2002–2007 PhD Student in Astrophysics

Department of Applied Physics and Mechanical Engineering, LTU.

2001–2002 MSc Student in Particle Physics

Groupe de Physique de Particules, Université de Montréal, Canada.

2000 (8 weeks) Computer Administration

Department of Civil Engineering, LTU.

1999 (11 weeks) CERN Summer Student

CERN (European Laboratory for Particle Physics), Genève, Switzerland.

1998–2000 (124 hours) Assistant mathematics teacher

Department of Mathematics, LTU.

1998 (8 weeks) Optics – interferometry

The Physics and Chemistry of Solids Group (PCS) at the Cavendish Laboratory, University of Cambridge, UK.

1997 (8 weeks) Programming

MEFOS (Foundation for Metallurgical Research), Luleå, Sweden.

1.6 Additional information

Married to Nathalie Caron Elfgrén.

2 Educational Degrees

2.1 Associate Professor Competence

2015 “Handledarutbildning steg 2”.

2006 “Handledarutbildning steg 1”.

2.2 Licentiate and/or PhD Degree

2008 PhD in Physics, “Cosmic dust and heavy neutrinos”, LTU. Main supervisor: Sverker Fredriksson.

2005 Licentiate Degree in Physics, “Dust in the early universe”, LTU.

2.3 Undergraduate and Graduate Degrees

2002 MSc in Particle Physics, Université de Montréal, Canada.

2000 MSc in Engineering Physics, LTU.

3 Scientific Merits

3.1 Research Profile since Doctorate

In general, my research is focused on process integration and energy efficiency in industrial and municipal systems.

2016– Research on renewable energy utilization on a municipal level; Research on globulettes in the Mily Way.

2011–2013 Research on energy optimization in a juice factory (Norrmeyerier, Hedenåset).

2010–2012 Research on energy optimization with the use of exergy in an integrated steel plant (SSAB, Luleå).

2010–2012 Research on energy optimization using mathematical programming in an integrated steel plant (SSAB), a combined heat and power plant (LuleKraft) and a district heating system (Luleå Energi).

3.2 Research Projects

2017–2020 Project leader of the LTU-part of the Northern Periphery and Arctic Program “Community based energy solutions for remote areas”: LECO.

2016–2018 Project leader of the Swedish part of the Interreg Nord project “Low Carbon Energy Self-sufficient Community”: Arctic Energy.

2011–2013 Project leader of the Swedish part of the Interreg Nord project “Energy and Resource Efficiency in Integrated Juice and Ingredient Production”: Berry.

2010–2012 Interreg Nord project “Network of Expertise for Energy in Cold Climate”: NoE.

2010–2012 Energy Agency project “Exergibegreppet, utvärdering av användning och användbarhet i studier av industriella energisystem”.

3.3 Description of Planned Research

Continued research on energy optimization in industrial and municipal systems.

3.4 List of Publications

(Web of Science, h-index: 16)

3.4.1 Peer-reviewed Publications in International Journals

- Fischer, R., Elfgrén, E., Toffolo, A. (2020). Towards Optimal Sustainable Energy Systems in Nordic Municipalities. *Energies*, 13(2). [[Link](#)] (Contributed to planning, discussing, and editing of paper)
- Fischer, R., Elfgrén, E., Toffolo, A. (2018), Energy Supply Potentials in the Northern Counties of Finland, Norway and Sweden towards Sustainable Nordic Electricity and Heating Sectors: A Review, *Energies*, 11(4), 751. [[Link](#)] (Contributed to planning, discussing, and editing of paper)
- Grenman, T., Weber, H., Elfgrén, E. (2018), History of Globulets in the Milky Way, *Astrophysics and Space Science*, 363:28. [[Link](#)] (Contributed to planning, discussing, and editing of paper)
- Grenman, T., Gahm, G., Elfgrén, E. (2017), Dusty globules in the Crab Nebula, *Astronomy and Astrophysics*, 599, A110. [[Link](#)] (Contributed to planning, discussing, and editing of paper)
- Anderson, J.-O., Elfgrén, E., Westerlund, L. (2014), Improved energy efficiency in juice production through waste heat recycling, *Applied Energy*, 130, 1 October 2014, pp 757–763. [[Link](#)] (Contributed to planning and execution of tests, analysis of data, planning, discussing, writing and editing of paper)
- Elfgrén, E., Grip, C.-E., Wang, C. and Karlsson, J. (2010), Possibility to Combine Exergy with other Process Integration Methods for a Steelmaking Case. *Chemical Engineering Transactions*, 21, 2010, pp 1375–1380. [[Link](#)] (Collection of data and analysis, main writer of paper)
- Elfgrén, E. and Fredriksson, S. (2008), Mass limits for heavy neutrinos. *Astronomy and Astrophysics*, 479, pp 347–353. [[Link](#)] (Main analysis of data, main writer of paper)
- Elfgrén, E., Désert, F.-X. and Guiderdoni, B. (2007), Dust distribution during reionization. *Astronomy and Astrophysics*, 476, pp 1145–1150. [[Link](#)] (Main analysis of data, main writer of paper)
- Elfgrén, E. and Désert, F.-X., (2004), Dust from reionization. *Astronomy and Astrophysics*, 425, pp 9–14. [[Link](#)] (Main analysis of data, main writer of paper)
- Azuelos, G., Benckroun, D., Cakir, O., Elfgrén, E., Gianotti, F., Hansen, J.-B., Hinchliffe, I., Hohlfield, M., Jakobs, K., Leroy, C., Mehdiyev, R., Paige, F.E., Polese, G., Stenzel, H., Tapprogge, S., Usubov, Z. and Vacavant, L. (2002), Impact of Energy and Luminosity upgrades at LHC on the Physics program of ATLAS. *J. Phys. G28* (2002), pp 2453–2474 (arXiv:hep-ex/0203019). [[Link](#)] (Contributed to analysis of data and writing of paper)
- Azuelos, G., Elfgrén, E. and Karapetian, G. (2001), Search for the FCNC decay $Z \rightarrow t\bar{q}$ in the channel $t \rightarrow l\nu$. OPAL Technical Note 693. [[Link](#)] (Main analysis of data, contributed to writing of paper)
This Technical Note and OPAL Papers and Preprints PR345 contributes to: Abbiendi, G. et al. (2001): The OPAL Collaboration. Search for Single Top Quark Pro-

duction at LEP2. CERN-EP-2001-066. *Physics Letters B521* (2001), pp 181–194 (arXiv:hep-ex/0110009). [[Link](#)]

3.4.2 Books

- Elfgrén, E. (2008), Cosmic dust and heavy neutrinos. Doctoral Thesis 2007:75, Luleå University of Technology, ISSN 1402-1544 ISRN LTU-DT-07/75-SE, 69 p. [[Link](#)]
- Elfgrén, E. (2005), Dust in the early universe. Licentiate Thesis 2005:17, Luleå University of Technology, ISSN 1402-1757 ISRN LTU-LIC-05/17-SE, 31 p. [[Link](#)]
- Elfgrén, E. (2002), Heavy and Excited Leptons in the OPAL Detector? Master's Thesis, Université de Montréal, 85 p (arXiv:hep-ph/0209238). [[Link](#)]
- Elfgrén, E. (2000), Detection of a Hypercharge Axion in ATLAS. A Monte-Carlo Simulation of a Pseudo-Scalar Particle (Hypercharge Axion) with Electroweak Interactions for the ATLAS Detector in the Large Hadron Collider at CERN. Master's Thesis 2000:334CIV, Luleå University of Technology, ISSN 1402-1617, 54 p (arXiv:hep-ph/0105290). [[Link](#)]

3.4.3 Conference Publications

Pedagogics, see my [Teaching Portfolio](#).

- Fischer, R., Elfgrén, E., Toffolo, A. (2019). Optimal Sustainable Transport Solutions Integrated into a Nordic Municipal Energy System. Presented at the NORPIE 2019 - The Conference on Energy, Power Systems and Power- and Industrial Electronics, Narvik, September 25-27, 2019. [[Link](#)] (Contributed to planning, discussing, and editing of paper)
- Elfgrén, E., Grip, C.-E., Karlsson, J. (2011), Exergy as a means for process integration in an integrated steel plant, 1st International Conference on Energy Efficiency and CO₂ Reduction in the Steel Industry, 27 June-1 July, Düsseldorf, Germany, 6 p. [[Link](#)] (Collection of data and analysis, main writer of paper)
- Grip C., Elfgrén E., Söderström M., Thollander P., Bernström T., Åsblad A., et al (2011). Possibilities and problems in using exergy expressions in processintegration. In: Proceedings of the World Renewable Energy Congress 2011 (WREC 2011), 9–13 May, Linköping. Sweden, Linköping: Electronic Press, 8 p. [[Link](#)] (Contributed to collection of data, analysis, and writing of paper)
- Elfgrén, E. (2001), Detection of a Hypercharge Axion in ATLAS, appearing in “Fundamental Interactions”, Proceedings of the 16th Lake Louise Winter Institute, British Columbia, Canada, World Scientific, pp 185–191 (2002). [[Link](#)] (Main analysis, main writer of paper)

3.4.4 Additional Publications

- Elfgrén, E. and Fredriksson, S. (2007), Are there indications of compositeness of leptons and quarks in CERN LEP data? 5 p (arXiv:hep-ph/0712.3342). [[Link](#)] (Main analysis of data, main writer of paper)
- Elfgrén, E. (2007), Using Monte Carlo to optimize variable cuts, 3 p (arXiv:hep-ph/0712.3340). [[Link](#)] (Sole writer)

- Elfgrén, E. (1999), Control System for the Ion Accelerator at ISOLDE. Student lecture presented on 13 August 1999 at CERN, Geneva, Switzerland. Published in CERN Annual Report 1999, p 347. [Link] (Sole writer)
- Elfgrén, E. (1998), Moiré Profilometry. Research report for the PCS group, Cavendish Laboratory, University of Cambridge, 27 p. [Link] (Sole writer)

3.4.5 Publications of the OPAL collaboration, CERN

For all of the following publications, I did not contribute directly, but through more general collaboration, tests and discussions within the OPAL collaboration.

- Barate, R. et al. (2003), Search for the standard model higgs boson at LEP. Physics Letters B 565: 61–75.
- Abbiendi, G. et al. (2003), Test of noncommutative QED in the process $e^+ e^- \rightarrow \gamma\gamma$ at LEP. Physics Letters B 568: 181–190.
- Abbiendi, G. et al. (2003), Bose-Einstein correlations of π_0 pairs from hadronic Z_0 decays Physics Letters B 559: 131–143.
- Abbiendi, G. et al. (2003), A measurement of semileptonic B decays to narrow orbitally excited charm mesons. European Physical Journal C 30: 467–475.
- Abbiendi, G. et al. (2003), Dijet production in photon-photon collisions at $\sqrt{s_{ee}}$ from 189 to 209 GeV. European Physical Journal C 31: 307–325.
- Abbiendi, G. et al. (2003), A measurement of the $\tau^- \rightarrow \mu^- \nu_\mu \nu_\tau$ Branching Ratio. Physics Letters B 551: 35–48.
- Abbiendi, G. et al. (2003), Search for nearly mass degenerate charginos and neutralinos at LEP. European Physical Journal C 29: 479–489.
- Abbiendi, G. et al. (2003), Inclusive analysis of the b quark fragmentation function in Z_0 decays at LEP. European Physical Journal C 29: 463–478.
- Abbiendi, G. et al. (2003), Multiphoton production in e^+e^- collisions at $\sqrt{s} = 181$ to 209 GeV. European Physical Journal C 26: 331–344.
- Abbiendi, G. et al. (2003), Search for the standard model Higgs boson with the OPAL detector at LEP. European Physical Journal C 26: 479–503.
- Abbiendi, G. et al. (2003), Search for a low mass CP odd Higgs boson in $e^+ e^-$ collisions with the OPAL detector at LEP-2. European Physical Journal C 27: 483–495.
- Abbiendi, G. et al. (2003), Measurement of the cross-section for the process $\gamma\gamma \rightarrow p p$ at $\sqrt{s_{ee}} = 183$ to 189 GeV at LEP. European Physical Journal C 28: 45–54.
- Abbiendi, G. et al. (2003), Charged particle momentum spectra in $e^+ e^-$ annihilation at $\sqrt{s} = 192$ to 209 GeV. European Physical Journal C 27: 467–481.
- Abbiendi, G. et al. (2003), Decay mode independent searches for new scalar bosons with the OPAL detector at LEP. European Physical Journal C 27: 311–329.
- Abbiendi, G. et al. (2002), Charged particle multiplicities in heavy and light quark initiated events above the Z_0 peak. Physics Letters B 550: 33–46.
- Abbiendi, G. et al. (2002), Measurement of neutral current four fermion production at LEP-2. Physics Letters B 544: 259–273.

- Abbiendi, G. et al. (2002), Measurement of the b quark forward backward asymmetry around the Z_0 peak using an inclusive tag. Physics Letters B 546: 29–47.
- Abbiendi, G. et al. (2002), Search for scalar top and scalar bottom quarks at LEP. Physics Letters B 545: 272–284, 2002, Erratum-ibid. B548: 258.
- Abbiendi, G. et al. (2002), Search for associated production of massive states decaying into two photons in $e^+ e^-$ annihilations at $\sqrt{s} = 88$ to 209 GeV. Physics Letters B 544: 44–56.
- Abbiendi, G. et al. (2002), Search for charged excited leptons in $e^+ e^-$ collisions at $\sqrt{s} = 183$ to 209 GeV. Physics Letters B 544: 57–72.
- Abbiendi, G. et al. (2002), Measurement of the charm structure function $F_{2,c}^\gamma$ of the photon at LEP. Physics Letters B 539: 13–24.

3.5 Approved Research Funding

2017–2020 Project leader of the LTU-part of the Northern Periphery and Arctic Program “Community based energy solutions for remote areas”: LECO.

2016–2018 Project leader of the Swedish part of the Interreg Nord project “Low Carbon Energy Self-sufficient Community”: Arctic Energy.

2011–2013 Project leader of the Swedish part of the Interreg Nord project “Energy and Resource Efficiency in Integrated Juice and Ingredient Production”: Berry.

3.5.1 Funding Courses

2011 Half-day seminar on how to apply for funding from Framework 7.

2010 Course in Fund raising (3 ECTS credits).

3.6 Network/Research Collaboration

2017–2020 LECO-project: Collaboration with Swedish partner: Jokkmokk municipality; Finish partners: Centria UAS, LEO; Irish partners: WDC, Udaras, IE; Norwegian partners: UiT; German partner: AEE; Austrian partner: AT.

2016–2018 Arctic Energy-project: Collaboration with Swedish partner: LTU Social Sciences division; Collaboration with Finish partners: Centria UAS, Lapland UAS, Micropolis Oy; Norwegian partners: UiT, Norut, HiN.

2013–2020 Collaboration with Gösta Gahm, SU.

2011–2013 Berry-project: Collaboration with Finish partner KTUAS.

2010–2012 NoE-project: Collaboration with Swedish partners: Centek, Energikontor Norr; Finish partners: Ouka, Lappia, Ouluinvention, Micropolis, Yski, RAMK; Norwegian partners: Norut, HiN, Bedriftskompetanse.

2010–2012 Exergy-project: Collaboration with LiU and Chalmers.

3.6.1 Conferences

Pedagogics, see my Teaching Portfolio.

2011 Speaker at the 1st International Conference on Energy Efficiency and CO2 Reduction in the Steel Industry, Düsseldorf, Germany (27 Jun-1 Jul).

- 2011 Co-author of a paper presented at the World Renewable Energy Congress 2011, Linköping, Sweden (8–13 May).
- 2010 Speaker at the 13th Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction, Prague, Czech Republic (28 Aug–1 Sep).
- 2008 Participator in the Lindau Nobel Laureate Meetings, Lindau, Germany (29 Jun–4 Jul).
- 2007 Invited speaker at the Swedish “Astronomdagarna”, Kiruna, Sweden (21–23 Sep).
- 2006 Poster at the conference “Chemodynamics”, Lyon, France (10–14 Jul), and poster at the conference “Dust from fundamental studies to astronomical observations”, Les Houches, France (30 Apr–5 May).
- 2003 Poster at the Workshop on “Cosmology and Particle Physics 2003”, CERN, Switzerland (12–17 Jun).
- 2002 Participator in the Nordita summer school “Cosmology and the High-Redshift Universe”, Abisko, Sweden (5–15 Aug).
- 2002 Presentation at the OPAL plenary in March and June, CERN, Switzerland.
- 2001 Presentation of my MSc thesis, Lake Louise Winter Institute, British Columbia, Canada (18–24 Feb).

3.7 Popular Science Communication of Research Results

- 2011 Popular Science Lecture entitled “The Physical Reality” as part of the program for the celebration of the 40th anniversary of LTU.
- 2003 Arranged the Physics part of “Vetenskapsdagen” and “Kulturdagen” for the public, Luleå.
- 2003– Giving popular science presentations regularly to children, prospective students and the general public.

3.8 National and International Research Awards

N/A

3.9 Other Scientific Merits Within and Outside the University

3.9.1 Scientific Prizes

- 2003 Nordea Scholarship (€ 5,000) for three months research, l’Observatoire de Grenoble, France.

3.9.2 Academy Membership

- 2003– Member of Svenska Fysikersamfundet.

3.9.3 Peer-review Assignments for Journals

- 2011 Journal of Renewable and Sustainable Energy.

3.9.4 Other Scientific Merits

- Optimization*, 2002– Experience of model building and optimization.
- Programming*, 1993– Matlab, C, Fortran, Visual Basic, Javascript and cgi-scripts (perl, PHP & MySQL).
- Computer administration*, 1998– Good knowledge of Linux/Unix, fair knowledge of Windows and MacOS.
- Languages* Fluent Swedish, English and French.

4 Pedagogical Merits

This is a brief summary of my teaching activities. More information about my educational qualifications are available in my [Teaching Portfolio](#).

4.1 Pedagogical Education

4.1.1 Academic Studies in University Pedagogics

- 2020 “Open Networked Learning” (3 ECTS credits).
- 2020 “Att bedöma pedagogisk skicklighet” (3 ECTS credits).
- 2020 Mentor in the course “Qualifying Course for University Teachers” (7.5 ECTS credits).
- 2017 “Programdriven kursutveckling” (3 ECTS credits).
- 2010 “University Pedagogics” (7,5 ECTS credits).
- 2003 “Pedagogics for University Teachers” (3 ECTS credits).

4.1.2 Certificate of Supervisor Training

- 2015 “Research Supervision, part 2” (4.5 ECTS credits).
- 2006 “Research Supervision, part 1 – to Supervise and to be Supervised” (3 ECTS credits).
- 2006 “Personal Leadership” with the Danish “Personal Management Institute” (2 ECTS credits).

4.2 Basic Educational Ideology

I love teaching! It is inspiring to follow and listen to the students. They often have challenging questions and they think beyond the box. In my opinion, my task as a teacher is to encourage and stimulate the students – not only to teach the subject.

More details can be found in my [Teaching Portfolio](#).

4.3 Educational Achievements

Scope Nineteen years experience of teaching Physics and Energy topics, both theoretical and practical courses.

Levels Many courses with levels ranging from basic courses at BSc level to advanced courses at MSc and PhD level.

Forms Lectures, lessons, laboratories, project courses, distance education and continuous examination.

4.3.1 Experience of Examination

Examiner Energy-efficient Buildings; Thermal and Hydraulic Machines; Physics 3; Physics and Electricity; Non-linear Physics; Astrophysics and Cosmology.

Deputy Examiner Data Analysis (PhD-course); Research Methodology (PhD-course); Physics A (for college students).

4.3.2 Course Development

- 2021 Development of a new secure examination method for covering all course objectives in Physics 3.
- 2017 Development of a new course in Thermal and Hydraulic Components.
- 2014 Assisting in the development of the course Energy Engineering, project B.
- 2013 Development of a new course in Energy-efficient buildings.
- 2011 Assisting in the development of the course Thermal and Hydraulic Machines at LTU.

2011– Continuous development of the courses where I am an examiner.

4.4 Supervision

MSc-courses Project courses: “Industrial Energy Processes” and “Energy Engineering, project B”.

MSc theses Supervision of 15 MSc theses, see my [Teaching Portfolio](#).

PhD Co-supervisor of ...

- Robert Fischer (in progress).
- Petter Lundqvist (in progress).
- [Tiia Grenman](#) (PhD 2018) “Dusty Globules and Globulettes”.
- [Daniel Risberg](#) (PhD 2018) “Analysis of the Thermal Indoor Climate with Computational Fluid Dynamics for Buildings in Sub-arctic Regions”.
- [Jan-Olof Andersson](#) (PhD 2014) “Energy and Resource Efficiency in Convective Drying Systems in the Process Industry”.

4.5 Teaching Materials

2016– Development of a script-based system for automatic handling of grade reporting, laboratory deadlines and students in the Learning Management System Canvas that is used by multiple other examiners.

2015– Development of a Handbook of Physics for the university, Fysika, see my [Teaching Portfolio](#).

2012– Development of a web-based progressive autocorrected system, including around 600 assignments, for the courses [Physics 1](#), [Physics 3](#) and [Physics and Electricity](#).

2011 Setting up a laboratory for the new course [Thermal and Hydraulic Machines](#) at LTU.

2009– Multiple manuals for lectures and laboratories for teachers and students, see my [Teaching Portfolio](#).

4.5.1 Pilot Activities and Other Development Projects

Member of reference groups and development groups for Sustainability, Examination, Equality, Plagiarism and our Learning Platform. See my [Teaching Portfolio](#)

4.6 Educational Planning and Administration

2019– Faculty Program Director of the MSc engineering program Sustainable Energy Engineering.

2017– Faculty Program Director of the BSc engineering program Electrical Power Engineering.

2016 Evaluation of a new plagiarism tool for the university.

2014– Member of an educational group at the division.

2014 Evaluation of new Learning Management Systems for the university.

2013– Member of a pedagogical department group.

2013– Research on the impact of web-based assignments for the students.

2010 Co-organizer of an International Masters Program in Energy Engineering at LTU.

2009 Organizer of two PhD courses, one in “Research Methodology” and one in “Data Analysis”.

2009– Examiner for the course [Physics 3](#) with roughly 500 students, 10 classes and 15 teachers.

4.6.1 Development Work and Research in Education

2020– Pedagogical workshops relating to: Course Plans, Program Development, Active Learning, Alternative Examinations, Students as Teachers, and Digital Tools.

2018 Article on my web-based progressive autocorrected system, “Bonusuppgifter – en speldesign för ökad lärande inom högre utbildning”.

4.6.2 Evaluations and Investigations

2021 Pedagogical evaluation of an application to become an Excellent Teacher.

4.7 Network/Pedagogical Collaborations

Subject Planning, evaluation and development of the Energy Engineering program; Development of a fastrack program in Energy Engineering for the Swedish Public Employment Service.

Division Planning, evaluation and development of the Electrical Power Engineering program.

Department Collaboration and discussions with the Physics teacher community, in particular the examiners of the courses [Physics 1](#), [Physics 2](#) and [Physics 3](#) as well as physics for the Preparatory Program in Technology (“Tekniskt basår”).

University Collaboration and discussions with the University Pedagogy Centre as well as other teachers at the “Pedagogik på trekvarten”; Member of the strategic development program for teachers with pedagogical skills and several other pedagogical groups, cf 4.5.1.

National Collaboration and discussions with the directors of studies for Electrical Power Engineering at the Mid Sweden University and Umeå University. Pedagogical collaborations within the national course in pedagogical evaluations and the international ONL-course.

4.8 Pedagogical Awards

2014 LTU:s pris för förnämliga insatser till gagn för utbildning på grundnivå och avancerad nivå – Education Prize from the university, LTU.

2013 Teknologkårens pris till bästa lärare 2013 – Prize to the best teacher of the year from the students, LTU.

2009 Adelpriiset – Prize to the best teacher of the year, LTU.

5 Management Positions

2021– Leader of a fastrack program in Energy Engineering for the Swedish Public Employment Service.

2021– Co-leader of the pedagogics workpackage in the European Space University “Universeh”.

2019– Faculty Program Director of the engineering program Sustainable Energy Engineering.

2017– Faculty Program Director of the engineering program Electrical Power Engineering.

2009– Examiner for the course Physics 3 with roughly 500 students, 10 classes and 15 teachers.

2008–2010 (30%) Director of the National Graduate School of Space Technology.

5.1 Administrative Assignments

2020– Development of a new digital examination system at LTU.

2020– Task Leader in the European Space University “Universeh” for the task “Student to Teacher” and the task “Learn abroad validate at home”.

6 Additional Assignments

6.1 Membership on Boards/Committees

2021 Member of the organizing committee for the pedagogical conference at LTU.

2017– Member of the steering committee for the Interreg LECO-project.

2016–2018 Member of the steering committee for the Interreg Arctic Energy-project.

2014– Member of the jury for the regional high-school project competition, Teknikens hus.

2011 Member of the jury for the business energy competition “Energiutmaningen”.

2011–2013 Member of the steering committee for the Interreg Berry-project.

2010–2013 Member of the steering committee and Coordinator of the Energy Efficiency Group within the Interreg Project “Network of Energy”.

1997–1998 Student member of the Board of the Department of Mathematics, LTU.

6.1.1 Other Professional Administrative Assignments

2011–2013 (10%) Head of the Energy Engineering Laboratory at LTU.

2009–2010 Organizer of workshops in the Graduate School of Space Technology: Trollhättan, Sweden (27–29 Jan, 2009), Esrange, Kiruna, Sweden (7–9 Sep, 2009) and IRF, Kiruna, Sweden (30–31 Aug, 2010).

6.2 Business Experience

2011–2012 Participation in the project “Företagsbron” with the objective of increasing the collaboration between companies and LTU.

2010–2013 Collaboration project (“Berry”) with Kemtorneå college and Finnish and Swedish business partners such as Norrmejerier, Hedenäset/Luleå (juice company).

2010– Coordinator of the industrial energy group in Luleå comprising SSAB, Luleå (integrated steel plant), LuleKraft (heat and power plant) and Luleå Energi (district heating).

6.2.1 Other External Contacts

2010– Contacts with Swedish, Norwegian and Finnish Universities and Companies started within the Interreg

Project “Network of Energy”.

2010 Planning of an International Masters Program in Energy Engineering with Narvik University College, Norway, and Oulu University, Finland.

6.3 Pro Bono Work/Positions of Trust

2018– Chair of the local Red Cross Organization.

2017– Treasurer and Personnel administrator (for six employees) of the shelter for homeless in Luleå.

2002– Chair, Treasurer, Secretary, Auditor and Member of various local, regional and national church boards for “Equmeniakyrkan”.

7 References

- Associate Professor Niklas Lehto, Director of Education at the Department of Engineering Sciences and Mathematics, Luleå University of Technology, Niklas.Lehto@ltu.se.
- Professor Marcus Öhman, Head of Energy Sciences, Luleå University of Technology, Marcus.Ohman@ltu.se.
- Professor Lars Westerlund, former Faculty Program Director for the Energy Engineering program, Luleå University of Technology, Lars.Westerlund@ltu.se.
- Professor Nils Almqvist, Physics Education Coordinator, Luleå University of Technology, Nils.Almqvist@ltu.se.