

CV for Professor Karin Andersson, born 1952

Orcid: 0000-0001-8756-1465

EDUCATION

M Sc (Civ Ing), Chemical Engineering, Royal Institute of Technology, Stockholm 1975

Ph D (Tekn Dr), Nuclear Chemistry, Chalmers University of Technology, Gothenburg, 1983

Docent, Technical Environmental Planning, Chalmers 1997

Archaeology, 40 p (60 hp), University College Gotland 2004, 15 hp 2016 Uppsala University

POSITIONS

2017– present. Professor (“full professor”), Maritime Environmental Sciences, Department of Mechanics and Maritime Science.

2011-2017. Professor (biträdande professor), Chalmers, Maritime environmental science, Department of Shipping and Marine Technology

1997– 2011, Associate professor (docent), Chalmers, Maritime Environment, Department of Shipping and Marine Technology (2009 -), Environmental Systems Analysis, Department of Energy and Environment (1997 – 2009. Until 2005 part of school of Civil Engineering)

1990 - 97 Lecturer (Universitetslektor), Chalmers; Technical Environmental Planning/Environmental Systems Analysis, School of Civil Engineering

1987 - present Consultant, own company Lindgren o Andersson HB/AB.

1983 - 87 Project manager ”Safety and systems analysis” Studsvik Energiteknik AB, Nyköping.

1978 - 83 Doctoral student, Department of Nuclear Chemistry, Chalmers.

1975 - 78 Education assistant, project assistant. Department of Chemical Engineering, Royal Institute of Technology. KTH Stockholm

RESEARCH AREA

My research was until the end of the 80ies mainly experimental with a focus on solution chemistry with applications on interactions between groundwater, soil/rock and metals/contaminants. The experimental work was accompanied by computer simulations of geochemical equilibria. The applications were within safety analysis of final repositories for nuclear waste. I worked within projects where the chemistry was an integrated part in the total safety analysis.

The present focus on environmental systems analysis has the same fundamental theoretical base concept as the safety analysis, but with different modelling and assessment tools like life cycle assessment (LCA), environmental impact assessment (EIA), ecological risk analysis (ERA), material flow analysis (MFA) etc. Since 2007 the applications of these tools have mainly been within shipping and maritime issues, and I have gradually moved my research to the department of Shipping and Marine Technology and the competence centre Lighthouse.

The task at Shipping and Marine Technology was initially to build up environmental research at the department within the framework of the competence centre Lighthouse. At present this is mainly focused on assessment of the environmental impact and sustainability of marine fuels and energy efficiency and use in the maritime sector. I was also responsible for the research theme “Ecoship” within the Lighthouse maritime competence centre 2010-2015

DISTINCTIONS AND AWARDS

2017 Styrkeområdenas Pris. (Award of the Chalmers Areas of advance) Together with Dr Maria Grahn.

MEMBERSHIP OF SCIENTIFIC COMMITTEES, REVIEW

- Member of preparatory group (beredningsgrupp) "building materials and components", FORMAS (The Swedish research council for Agriculture, Environment and Spatial Planning) 2002, 2003, 2004
- Elector for FORMAS's board 2003
- Member of preparatory group for natural science and technology, STINT, (The Swedish Foundation for International Cooperation in Research and Higher Education) 2007, 2008, 2009
- Member of preparatory group for natural science, Svenska Institutet, The Swedish Institute, 2009, 2010, 2011, 2012, 2013
- Evaluator of research proposals MSB, Swedish Civil Contingencies Agency, 2010
- Research evaluations for the Norwegian Research Council 2015, 2016
- Scientific advisor/partner in the Norwegian Research programme "Smart Maritime – Norwegian Centre for improved energy efficiency and reduced harmful emissions from the maritime sector". 2015 – 2023
- Evaluation of a university in Sweden, UKÄ 2020. Head of committee.

PUBLICATIONS (<https://research.chalmers.se/en/person/karina>)

1 edited/written book, 28 peer reviewed journal articles, 27 peer reviewed conference articles, 17 non reviewed conference articles, 48 technical reports; Since 2012, 35+ presentations at conferences, workshops, seminars, public events, radio interviews etc.

SUPERVISION

Have supervised 5 PhD students from start to PhD defence, been involved as main or deputy supervisor for another 7.

RESEARCH GRANTS

EU Horizon 2020, HyMethShip, project start mid 2018, three years project

- Project leader at Chalmers, consortium led by LEC, TU Graz. Involving also Fraunhofer Institut, SSPA, Lloyds Register, GE Jenbacher, Meyer Werft and others. Total funding 8 M€, for Chalmers 327 k€

Swedish Energy Agency:

- Environmental Management in Shipping, three project stages from 2009 to 2016. Total funding $990 + 3\,265 + 2\,682 = 6\,937$ kSEK
- Energy Systems Modeling in shipping. Three project stages from 2009 to 2016. Total funding $450 + 2\,840 + 2\,351 = 5\,641$ kSEK

Swedish Maritime Administration

- Methods and systems for evaluating emissions – specifically particulate matter from ship to air and the impact on the environment. Funding: $309 + 3\,029 = 3\,338$ kSEK
PhD project. Supervised by Prof Erik Fridell and Lecturer Kent Salo

Göteborg Energy Research Foundation

- Particle emission measurements from LNG fuelled engines. 2012-2013

Performed by Maria Anderson and Kent Salo in cooperation with IVL (Erik Fridell)
Total funding: 530 + 570 = 1 100 kkr

RECENT PROJECTS AS CO-APPLICANT

Formas

- Cost-effective choices of marine fuels under stringent carbon dioxide reduction targets. 2015-2017
Main applicant Dr Maria Grahn, department of Energy and Environment, Chalmers
Total funding: 3 344 kSEK

VGR

- Prestudy of analysis of cost-effective choices of marine fuels at stringent carbon dioxide targets . (Inledande studie för analys av kostnadseffektiva val av marina bränslen, vid hårda koldioxidminskningskrav) 2012
Total funding: 200 kSEK
Project leader Maria Grahn (Physical Resource Theory), participating Maria Taljegård (Physical Resource Theory), Selma Bengtsson, Hannes Johnson and Karin Andersson.

RESEARCH COLLABORATION WITH OTHER SECTORS

Vinnova

- Effship project 2009-2013
Total funding: 18 000 kSEK, of which Vinnova 12 000 kSEK
Project leader: Per Fagerlund, ScandiNaos, participants: SSPA Sweden AB, ScandiNAOS AB, Wärtsilä Sweden AB, S-MAN AB, D.E.C. Marine AB, Chalmers tekniska högskola AB, Inst. för Sjöfart och marin teknik, Göteborg Energi AB, Stora Enso AB, Svenska Orient Linien AB