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CV – Hannes von Knorring

Short bio Hannes von Knorring (previously Johnson) is a post-doctoral researcher at Gothenburg Research Institute, at the School of Business, Economics, and Law at Gothenburg University. He is interested in research that bridges engineering and social science; practice and policy.

Research interests Shipping, Energy efficiency in practice, Public policy, Transdisciplinarity

Recent working experiences

March 2017 – *Visiting Research Fellow*, Graduate School of Public Policy, University of Tokyo.
Field studies in the Japanese shipping and shipbuilding sector, to study innovation regarding energy efficiency.

Sep 2016 – *Researcher*, Gothenburg Research Institute (GRI), School of Business, Economics, and Law at the University of Gothenburg.
Post-doc position on energy efficiency in ship procurement. Funded by the Swedish Energy Agency (grant no 40656-1).

Jan 2016 – *Research Adviser*, Sweship Energy, Swedish Shipowners' Association
Organisational development in a network for energy efficiency in shipping. Funded by the Swedish Energy Agency and a number of Swedish shipping companies.

Feb 2009 – Aug 2010 *Project Assistant*, Chalmers
Assessed compliance and enforcements mechanisms concerning biofuel legislation in feedstock producing countries. Project commissioned by the European Commission.
Analysed prerequisites for implementing energy management systems in shipping. Funded by the Swedish Energy Agency.

University education

Sep 2010 – April 2016 *PhD Student*, Department of Shipping and Marine Technology, Chalmers
Transdisciplinary research on energy efficiency in ship operations. Dissertation due 8th of April, 2016. Funded by the Swedish Energy Agency.

Aug 2002 – Dec 2008 *M.Sc., Engineering Physics* (Swedish: 'Civilingenjör'), Chalmers
Year 1-3: Applied physics and mathematics. 4-5: Industrial ecology
Thesis performed at University of Tokyo on innovation system of the Japanese solar cell industry. Interviewed ~30 key people in Japan.
Internships, summer jobs, fellowships: Bearing Production at SKF AB (~9 months in total); Division of Condensed Matter Physics at Chalmers (~8 months); Core Physics Group at the Ringhals Nuclear Power Plant (2 months) ; Fellowship at the Food and Agriculture Organisation of the UN (FAO), Rome (5 months).

Aug 2001 – May 2002 *Philosophy*, Linköping University
Theory of science and analytical philosophy.

**Journal papers
(peer-reviewed)**

Taudal Poulsen, R. and Johnson, H. (2016). The logic of business vs. the logic of energy management practice: understanding the choices and effects of energy consumption monitoring systems in shipping companies. *Journal of Cleaner Production*. 112(5), pp. 3785–3797.

Johnson, H and Styhre, L. (2015). Increased energy efficiency in short sea shipping through decreased time in port. *Transportation Research Part A – Policy and Practice*. 71, pp. 167-178.

Baldi, F., Johnson, H., Gabriellii, C. and Andersson, K. (2015). Energy and exergy analysis of ship energy systems – the case study of a chemical tanker. *International Journal of Thermodynamics*. In press.

Johnson, H. and Andersson, K. (2014). Barriers to energy efficiency in shipping. *WMU Journal of Maritime Affairs*. DOI: 10.1007/s13437-014-0071-z

Taljegård, H., Brynolf, K., Grahn, M., Andersson, K. and Johnson, H. (2014). Cost-effective choices of marine fuels in a carbon-constrained world: results from a global energy model. *Environmental Science and Technology*. 48(21), pp. 12986-12993.

Johnson, H., Johansson, M. and Andersson, K. (2014). Barriers to improving energy efficiency in short sea shipping – an action research case study. *Journal of Cleaner Production*. 66(1), pp. 317-327.

Johnson, H. et al. (2013) Will the ship energy efficiency management plan lead to reduced CO2 emissions? A comparison with ISO 50001 and the ISM Code. *Maritime Policy & Management*. 40:2, pp. 177-190.

Book chapters

Brynolf, S., Baldi, F. and Johnson, H. (2016). Energy Efficiency and Fuel Changes to Reduce Environmental Impacts. In: *Shipping and the Environment. Improving environmental performance in shipping*, edited by Karin Andersson, Selma Brynolf, J. Fredrik Lindgren and Magda Wilewska-Bien, 295-339. Berlin: Springer.

Salo, K., Zetterdahl, M., Johnson, H. et al. (2016). Emissions to air. In: *Shipping and the Environment. Improving environmental performance in shipping*, edited by Karin Andersson, Selma Brynolf, J. Fredrik Lindgren and Magda Wilewska-Bien, 169-227. Berlin: Springer.

Brynolf, S., Lindgren, J.F, Andersson, K., Wilewska-Bien M., Baldi, F., Granhag, L., Johnson, H., et al. (2016). Improving environmental performance in shipping. In: *Shipping and the Environment. Improving environmental performance in shipping*, edited by Karin Andersson, Selma Brynolf, J. Fredrik Lindgren and Magda Wilewska-Bien, 399-418. Berlin: Springer.

Theses

In search of maritime energy management. Thesis for the degree of PhD in engineering, Chalmers University of Technology, 2016.

Towards Understanding Energy Efficiency in Shipping. Thesis for the Degree of Licentiate in Engineering, Chalmers University of Technology, 2013.

Increasing the rate of solar cell diffusion in Japan – Dynamics of the PV innovation system, 1973-2007. M.Sc. Thesis, Chalmers University of Technology, 2008.

**Conference papers
(peer-reviewed)**

Baldi, F., Johnson, H., et al. (2014). Energy and exergy analysis of ship energy systems - the case study of a chemical tanker. *27th ECOS, International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems*.

Baldi, F., Johnson, H., et al. (2014). Energy analysis of a ship - the case study of a chemical tanker. *International Conference of Applied Energy*.

Grahn, M., Taljegård, M., Bengtsson, S., Andersson, K., and Johnson, H. (2013). Cost-effective choices of marine fuels under stringent carbon dioxide targets. *Proceedings of 3rd International conference on technologies, operations, logistics and modelling in Low Carbon Shipping*, University College London.

Johnson, H. et al (2012) Will the IMO Ship Energy Efficiency Management Plan (SEEMP) lead to reduced CO2 emissions? A comparison with ISO 50001 and the ISM Code. *International Association of Maritime Economists (IAME) Conference*, Taipei, Taiwan.

Johnson, H. et al. (2012) Barriers for improving energy efficiency in short sea shipping – a case study. *International Research Conference on Short Sea Shipping*, Estoril, Portugal.

Johnson, H. and Andersson, K. (2011) *The energy efficiency gap in shipping – barriers to improvement*. International Association of Maritime Economists (IAME) Conference, Santiago de Chile, Chile.

Other publications

Bännstrand, M., Jönsson, A., Johnson, H., and Karlsson, R. (2016). Study on the optimization of energy consumption as part of implementation of a ship energy efficiency management plan (SEEMP). Report to the IMO: MEPC 69/INF.11.

Johnson, H. (2014). Understanding how energy efficiency is achieved in shipping companies - an action research approach. Poster presented at *IARU Sustainability Science Congress*, Copenhagen.

Johnson, H. (2014). GHG Emissions and the Energy Efficiency Gap in Shipping. Chapter in the report *Targeting the Environmental Sustainability of European Shipping - The Need for Innovation in Policy and Technology*. European Panel for Sustainable Development (EPSD).

Styhre, L. and Johnson H. (2013). Increased energy efficiency through increased port efficiency. Technical report, EffShip WP7, SSPA.

Johnson, H. (2013). Sustainability challenges and business in society: the case of maritime energy efficiency. Article presented at the PhD student workshop at *JFBS Conference on CSR and Corporate Governance*, Tokyo.

Englund, O., Berndes, G., Johnson, H. and Ostwald, M. (2011) Environmental Impact Assessments: Suitable for supporting assessments of biofuel sustainability? Technical report, Göteborg: Chalmers University of Technology. Report number: FRT 2011:05

Johnson, H. and Södahl, B. (2010). Strategies and methods for increased energy efficiency in shipping. Technical report, Chalmers University of Technology.

Vinger, E., Jelse, K., Johnson, H. (2008). Japan storsatsar på solcellsteknologi. Tillväxtpolitisk utblick (5).

Grants

“How to procure an energy efficient ship”, 3 841 000 SEK (~300000 EUR). Research grant from the Research Programme Strategic Energy Systems Research, administrated by the Swedish Energy Agency. Grant number: 15-2520.

Review assignments

Energy Policy; Journal of Cleaner Production; Maritime Policy & Management; Ocean Engineering; Proceedings of the Institution of Mechanical Engineers, Part M: Journal of Engineering for the Maritime Environment; Research in Transportation Business and Management; Transportation Research Part A – Policy & Practice; Transportation Research Part D – Transport & Environment.

Teaching

2014

Teaching and course responsible, Maritime Energy Management. Course contained three blocks

1. Climate Change Policy and Shipping (examined through home exam)
2. Energy efficiency in shipping companies (basic hydrodynamics, machinery systems, measurements etc.)
3. Project work at a shipping company (2014 on on-board decision support tools for energy efficiency, in cooperation with Laurin Maritime, Wallenius Marine and Stena Line.

2013-2014

Developing M.Sc. course (7.5 ECTS credits) and writing corresponding literature in Maritime Energy Management.

2012-2013

Seminar leader, Maritime Environment course (B.Sc. level)

Recent public outreach and other presentations

Energieffektivisering på rederier. Presentation at board meeting of the Gothenburg Research Institute (GRI). Göteborg, June 2016.

Energiledningssystem. Presentation at Sweship Energy workshop for ship crew on energy efficiency in ship operations. Göteborg, May 2016.

In search of maritime energy management. Presentation at Lighthouse seminar on energy efficiency in shipping. Göteborg, May 2016.

Energieffektivisering i sjöfarten. Presentation at Energihamnsdagen, Göteborg, May 2016.

Maritime energy management - the practice-research-education nexus. ORKA 2015, Marorka Energy Management User Conference. Reykjavik, 2015.

Joint research seminar on Vessel Performance Management & IT and impact on energy efficiency, emissions and operational cost for shipping companies. Aalborg University. Copenhagen, 2015.

Understanding choice of energy consumption monitoring systems

in shipping: A practice perspective on the energy efficiency gap. SENIX Conference: The Role of Social Sciences in a Low-Carbon Energy Mix. Stockholm, 2015.

“Tell an engineer to read books? It was quite a shock.” Presentation at Gothenburg Research Institute (GRI). Gothenburg, 2015.

Reduce time in port to slow steam while at sea – win-win or in nobody’s interest? Presentation at Lighthouse seminar on ship routing. Stockholm, 2015.

Maritime Energy Management. Presentation at DNV-GL NMU Workshop. Göteborg, 2015.

Shipping companies’ strategies for energy efficiency: from now to 2050. Presentation at Transportforum, Linköping, 2015.

Energy monitoring seminar. Organized open seminar at Chalmers together with Associate Professor René Taudal Poulsen from Copenhagen Business School. Göteborg, 2014.

Energy efficiency in shipping companies. Presentation at Energy day (“Energidagen”), seminar for members of Swedish Shipowners Association. Göteborg, 2014.

Energy efficiency research – an overview. Presentation at Research Committee of the Swedish Shipowners Association. Göteborg, 2014

Shipping and climate change, Lighthouse EcoShip seminar, Gothenburg, 2013.

Increased energy efficiency through increased port efficiency, MARKIS Port Efficiency Seminar, Gothenburg, 2013.

Are there measures below zero cost for abating CO₂ emissions from shipping? On why we need to understand how shipping organisations deal with energy efficiency. DNV-NMU Workshop, Szczecin, Poland, 2013.

Shipping, climate change, and methods for measurements. Shipping, man and the environment conference, Kalmar 2012.

Ship Energy Efficiency Management Plan, SEEMP Workshop, Research Committee of the Swedish Shipowner’s Association, Gothenburg, 2012.

Challenges to increased energy efficiency in shipping, Network for Transport and Environment (NTM) yearly meeting, Gothenburg, 2012.

Energy efficiency in shipping, Engineers for Sustainability Café Night, Gothenburg, 2012.

Energy efficiency in shipping, Almedalen Politicians’ Week, Visby, 2012.

Shipping, environmental impact and energy efficiency, Markis Energy Efficiency Seminar, Gothenburg, 2012.

Why aren’t people saving fuel if it is cost-efficient?, Shipping, man and the environment conference, Kalmar 2011.

Implementing energy management systems in shipping, Swedish Maritime Forum seminar for the Swedish Parliament, Stockholm, 2011.

Implementing energy management systems in shipping, MARKIS Yearly Conference, Uddevalla, 2011.

The energy-efficiency gap in shipping - Barriers to improvement, Internal meeting of the Research Committee of the Swedish Shipowner’s Association, Gothenburg, 2011

Shipping and climate change, Post-MEPC 62 seminar, Chalmers, Gothenburg, 2011.

“You can’t manage what you don’t measure” - what does it mean?, Emerson-Transas fuel efficiency seminar, Copenhagen, 2011

Positions of trust
2011-2012

Initiator and member of a PhD student council, Department of Shipping and Marine Technology, Chalmers

2004-2005

Elected Chairman, Engineering Physics Students Guild, Chalmers
Led meetings weekly of 10 people and quarterly of 80+, participated in working groups, represented students in various boards, etc., to enhance quality of education and student life for 400+ Engineering Physics student members.

Scholarships

Scholarship for work at the FAO: SIDA (Swedish Development Agency)
Scholarships for position as Visiting Researcher at Tokyo University: Sveriges Ingenjörers Miljöfond, Sweden-Japan Foundation / Stiftelsen Marcus och Amalia Wallenbergs Minnesfond, Ångpanneföreningens forskningsstiftelse, Japanstiftelsen för studier av japanskt samhällsliv.

Other achievements

Aikido black belt (1st degree), 2012. Father of two (2011 and 2014).