

Professor Simon Harvey

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Personal information

Born 19 June 1965, Preston, England
Citizenship: British/Swedish (dual)
Married since 1990, three children
(born 1995, 1997, 1999)

Academic degrees

- 1988:** **Ingénieur Civil Mécanicien** (B.Sc. in Mechanical Engineering). Université Catholique de Louvain (UCL) at Louvain-La-Neuve (Belgium). Graduated with Honors
- 1991:** **Master of Science (M.Sc.)** in Engineering Sciences. Thayer School of Engineering, Dartmouth College, USA. Thesis title: "A Study of Forces Acting on Particles in Fluidized Beds and their Implications for Bed Stability".
- 1994:** **Doctor of Philosophy (Ph.D.)** in Engineering Sciences. Thayer School of Engineering, Dartmouth College, USA. Thesis title: "Reversibility of Combustion Processes". Thesis advisor: Prof. Horst Richter.
- 2000:** **Docent** in Heat and Power Technology, Chalmers University of Technology.

Academic appointments

- 1994–1997:** Assistant Prof., Dept. of Energy Systems Engineering, Université de Nantes - ISITEM, France.
- 1997–2001:** Assistant Professor, Dept. of Heat and Power Technology, Chalmers, Göteborg, Sweden.
- 2001–2006:** Associate Professor (Docent), Heat and Power Technology Group, Dept. of Chemical Engineering and Environmental Science, Chalmers, Göteborg, Sweden.
- 2006–2011** Professor (*biträdande professor*) of Industrial Energy Systems. Chalmers, Göteborg, Sweden.
- October 2011** Full Professor of Engineering in Industrial Energy Systems, Chalmers, Sweden.
- Aug–Dec 2012** Visiting Prof., Dept of Chemical and Biomolecular Engineering, National Univ. of Singapore. Financed by STINT (Swedish Foundation for International Cooperation in Research and Higher Education), Excellence in Teaching Fellowship.

Current Position

Full Professor of Engineering in Industrial Energy Systems, Chalmers, Sweden. Duties: Teaching (15%), Administration (25%), Research (60%). Leader of the *Industrial Energy Systems Analysis* research group at Chalmers since 2013

Research profile

Development of methods and tools (conceptual process design, process integration, process modelling and simulation) to support transition towards resource-efficient and flexible industrial processes. Early-stage techno-economic and sustainability assessment of the potential benefits of renewable feedstocks, energy efficiency and GHG emissions reduction measures in industrial processes and industrial clusters.

Specific research areas:

- Energy efficiency analysis of industrial chemical processes and industrial process clusters using process integration methods and tools;
- Resource-efficient use of biomass in industrial energy systems, particularly biorefinery concepts based on forest biomass feedstock
- Process integration and techno-economic analysis of decarbonisation measures in industrial processes;
- Methodology development for long-term assessment of economic and climate-change impact of energy projects in industrial energy systems.
- Development of future energy market scenarios, including fuel prices, reference electric power production technologies and generation costs, and costs associated with energy and climate-change policy instruments.

Bibliometric data

Publications (Scopus, accessed 20180621): 102; Citations: 1329; h-index: 23

Leadership and management experience

- Program Director, *Environmentally Sustainable Process Technology* (ESPT) International Master's Program at Chalmers (Aug 2003–Dec 2004)
- Program Director, *Sustainable Energy Systems* M.Sc. program at Chalmers (Mar 2006–Oct 2008)
- Director of *Energy Academy* at Chalmers (Aug 2008–Jan 2010)
- Head of Heat and Power Technology Division at Chalmers (Dept of Energy and Environment) (Jan 2010–Mar 2013)
- Research package manager for the Process Integration area within the Energy Combine research platform within CEI (Chalmers Energy Initiative, a Strategic Research platform funded by the Swedish government). Annual budget: 5 Mkr. (2010-2014).
- Research area manager for the Energy Combine research platform within CEI (Chalmers Energy Initiative). Annual budget: 25 Mkr. (2013-2014).
- Profile Leader for the *Biobased Economy* Excellence Profile within Chalmers Energy Area of Advance (2014)
- Leader of the *Industrial Energy Systems Analysis* research group at Chalmers since 2013.

National and international assignments

Ongoing involvement in committees and international organisations

- Member of the Scientific Committee for a number of international conferences (*ECOS, ICAE, PRES, SDEWES, ECCE, ECEEE*) in the field of energy efficiency of industrial processes
- Chalmers rep. in Steering Committee for the West Sweden Chemical & Material Cluster, 2016-present
- Member of Swedish National Team in IEA International Energy Agency's Annex 15 "Excess Heat", 2013-present

Editorial Tasks

- Member of the Editorial Board for *Energy* and *Int'l Jnl of Energy Research*. Regular reviewer of journal submissions in the field of industrial energy systems (10 – 15 reviews per year).

PhD-thesis examination tasks

- Involved in examination (as Opponent or member of the examination committee) of over 50 PhD theses, primarily in the Nordic countries

Supervision of graduate research students

As main supervisor for PhD students at Chalmers who have completed their degree

- Håkan Eriksson: Lic Eng, 2001. *System Aspects of Black Liquor Gasification – Consequences for both Industry and Society*
- Anders Ådahl: PhD, 2004. *Process Industry Energy Projects in a Climate Change Conscious Economy*
- Åsa Marbe: PhD, 2005. *New Opportunities and System Consequences for Biomass Integrated Gasification Technology in CHP Applications*
- Eva Andersson: PhD, 2007. *Benefits of Integrated Upgrading of Biofuels in Biorefineries – Systems Analysis*
- Karin Pettersson: PhD, 2011. *Black liquor gasification-based biorefineries – Determining factors for economic performance and CO₂ emission balances*
- Stefan Heyne: PhD, 2013. *Bio-SNG from Thermal Gasification – Process Synthesis, Integration and Performance*
- Roman Hackl: PhD, 2014. *A Methodology for Identifying Transformation Pathways for Industrial Process Clusters: Toward Increased Energy Efficiency and Renewable Feedstock*
- Maria Arvidsson: PhD, 2016. *Assessing Integrated Gasification-Based Biorefinery Concepts for Decarbonisation of the Basic Chemicals Industry*
- Johan Ahlström: Lic.Eng., 2018. *Cost-effective pathways for gasification-based production of biofuels.*

+ main supervisor for 4 ongoing PhD student projects