

## 1. Contact Information

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## 2. Education

1986 Master of Science in Pharmacy.  
1992 PhD exam in Analytical Pharmaceutical Chemistry with the thesis "Distortions of Analyte Peaks due to Large System Peaks in ion-pair Adsorption Chromatograph" (supervisor: Prof. Douglas Westerlund).  
1993, 1996 Postdoctoral fellow

## 3. Academic Promotions

1997 Promoted to Associate Professor (docent) at Uppsala University.  
2007 Promoted to Professor in Analytical Biotechnology at Uppsala University.  
2010 Full Professor in Analytical Chemistry at Karlstad University.

## 4. Employment

1994 Laboratory manager at Medical Products Agency (Läkemedelsverket).  
1995 - 2000 Lectureship (lektor) in Analytical Pharmaceutical Chemistry, Uppsala University.  
2000 - 2008 Lectureship and Director of courses (studierektor) at the Department of Surface Biotechnology, Uppsala University  
2009 - 2010 Lectureship in Analytical Biotechnology at the department of Physical and Analytical Chemistry.  
2010- Employed as permanent Professor in Analytical Chemistry at Karlstad University.

## 5. Supervision of PhD Theses and Licentiate Theses

Main supervision if not otherwise stated

- 1) PhD exam year 2000, Gustaf Götmar: *Heterogeneous Surfaces in Chiral Chromatography* (main supervisor)
- 2) PhD exam year 2004, Johan Lindholm: *Development and Validation of HPLC methods for Analytical and Preparative Purposes*<sup>1</sup>
- 3) PhD exam year 2005, Patrik Forssén: *Adsorption Isotherm Parameter Estimation in Non-linear Liquid Chromatography*<sup>2</sup>
- 4) PhD exam year 2007, Robert Arnell: *Development and Validation of methods for Characterization of Multi-component systems in Preparative LC*<sup>3</sup>
- 5) PhD exam year 2008, Jörgen Samuelsson: *Development of Methods for Phase System Characterization in Liquid Chromatography*<sup>4</sup>
- 6) Licentiate Exam 2010, Lena Edström: *Fundamental Studies on Peak Shapes in Liquid Chromatography*
- 7) Licentiate Exam 2011, Torgny Undin (VR-ID PhD student): *Development and improvement of methods for characterization of HPLC stationary phases*
- 8) PhD Exam 2014, Lena Edström: *Adsorption Studies with Liquid Chromatography: Experimental Preparations for Thorough Determination of Adsorption Data*<sup>5</sup>
- 9) PhD Exam 2015, Martin Enmark: *Fundamental Investigations of Supercritical Fluid Chromatography*<sup>6</sup>.
- 10) PhD Student, planned defending 6<sup>th</sup> April 2017, Dennis Åsberg: The project is in cooperation with Anders Karlsson, Director Pharmaceutical Development AstraZeneca R&D in Gothenburg<sup>7</sup>

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1 Johan's thesis was awarded the 1<sup>st</sup> Phabian Award 2005 (The Pharmaceutical and Bioanalytical award, sponsored by AstraZeneca) for the best doctoral thesis of the year.

2 Bertil Gustafsson at the Department of Scientific Computing was main supervisor; I was deputy supervisor.

3 Robert's thesis was awarded a shared 2<sup>nd</sup> position Phabian Award 2007 for the best doctoral thesis of the year.

4 Jörgens's thesis was awarded a shared 2<sup>nd</sup> position Phabian Award 2008 for the best doctoral thesis of the year.

5 My PhD student Lena Edström did her disputation in Uppsala University with Jonas Berquist as formal supervisor since I had already left to Karlstad but I was the scientific supervisor for all papers in the thesis.

6 Martin's thesis was awarded a shared 2<sup>nd</sup> position Phabian Award 2016 for the best doctoral thesis of the year.

7 Dennis plans to defend his thesis on the 6<sup>th</sup> of April 2017.

- 11) Licentiate Student in progress, Emelie Glenne: The project is in cooperation with Magnus Klarquist, at Medical Chemistry AstraZeneca R&D in Gothenburg.

## 6. Experience as Project Leader

I am leading the Fundamental Separation Science Group at Karlstad University ([www.FSSG.se](http://www.FSSG.se)) that moved from Uppsala University to Karlstad University (KAU) in 2010. FSSG is a small, but internationally competitive, research group focusing on fundamental investigation of the molecular interactions in separation and Biosensor systems. The members of FSSG are from different backgrounds, e.g. chemistry, engineering and scientific computing, and have since 2010 produced > 50 articles in high-ranked scientific journals + > 20 lectures/key-notes at international conferences and several workshops.

I have been/am the project manager for the following KK projects:

- 1) KK HÖG 11 Ref # 202100-3120: Starting date 2012-01-15; Ending date: 2014-01-15; Participating companies: Eka Chemical AB Separation Products, Cambrex Karlskoga AB, AstraZeneca R&D Mölndal.
- 2) KK International Guest professor 13 Ref # 20140028: Starting date 2014-12-01; ending date 2015-11-30. Participating company: Medicinal Chemistry, AstraZeneca R&D (MCAZ), Mölndal, Sweden.
- 3) KK HÖG 14 Ref # 20140179: Starting date 2015-02-01; Ending date: 2016-12-31; Participating companies: AstraZeneca R&D Mölndal, Attana AB, Waters Nordic AB.
- 4) KK HÖG 15 Ref # 20150233: Starting date 2016-02-01; Ending date: 2017-12-31; Participating companies: AstraZeneca R&D Mölndal, Attana AB, Waters Nordic AB.

## 7. Other information of Relevance

- According to Google Scholar (2 February 2017) my h-index was 29; number of citations 2345; citations per item  $\approx 20$ .
- I have developed and taught a supervisor course for engineering programs teachers involved in project courses at Uppsala University.
- I have with the Biotech industry and a project leader/communication consult (<http://www.leifandersson.se/vem.shtml>) developed a very successful project course for engineering students at Uppsala University <http://www.ingenjoren.se/2010/03/kaos-i-klassrummet-ska-ge-jobb/>
- I am reviewing around 10-15 articles a year for several highly rated separation journals
- I have been in the committee for several licentiate and PhD dissertations + being opponent several times the last 10 years
- I have been expert evaluator/ scientific reviewers for several professor promotions/employments.
- I have been member of various boards' at well-recognized international congresses in over area during the last years and was member of the VR NT-D4 panel 2011, the NT-17 2013 and 2014.
- Have held a full day workshop at AstraZeneca in January 2017, on how to implement the findings in our joint KK HÖG projects, for more than 70 of their senior scientist.

## 8. Relevant Scientific publications

- 1) Combining Chemometric Models with Adsorption Isotherm Measurements to Study Omeprazole in RP-LC by D. Åsberg, M. Leško, J. Samuelsson, A. Karlsson, K. Kaczmarek and T. Fornstedt *in* Chromatographia October 2016, Volume 79, Issue 19, pp 1283–1291.
- 2) Evaluation of scale-up from analytical to preparative supercritical fluid chromatography by M. Enmark, D. Åsberg, H. Leek, K. Öhlén, M. Klarqvist, J. Samuelsson and T. Fornstedt *in* Journal of Chromatography A Volume 1425, 18 December 2015, Pages 280–286.
- 3) Method transfer from high-pressure liquid chromatography to ultra-high-pressure liquid chromatography. II. Temperature and pressure effects by D. Åsberg, J. Samuelsson, M. Leško, A. Cavazzini, K. Kaczmarek, T. Fornstedt *in* Journal of Chromatography A Volume 1401, 3 July 2015, Pages 52–59.
- 4) Thermodynamic and kinetic approaches for evaluation of monoclonal antibody - Lipoprotein interactions by E. Multiaa, H. Sirén, K. Andersson, J. Samuelsson, P. Forssén, T. Fornstedt, K. Öörnie, M. Jauhainen, M.-L. Riekkola *in* Analytical Biochemistry Volume 518, 1 February 2017, Pages 25–34.