

## Personal data

Name: Bolmstedt, Sten Ulf Edvin  
Date of birth: September 19, 1946  
Place of birth: Lund, Sweden  
Civil status: Married since 1975 to Britta Kjellin Bolmstedt  
Children: Two boys, born 1976 and 1977  
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Sweden  
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Current position: Company Specialist Heat Transfer & Fluid  
Mechanics, Tetra Pak Processing Components AB,  
Department of Heat Transfer

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## Education and examinations

Master of Science Chemical Engineering,  
Lund Institute of Technology, Lund University, 1971

Technical Doctor Chemical Engineering,  
Lund Institute of Technology, Lund University, 1975  
Thesis title: *Simulation of steady state and dynamic behaviour  
of general multiple effect evaporation plants*

Associate Professor Chemical Engineering ("Docent"),  
Lund Institute of Technology, Lund University, 1979  
Thesis title: *Optimisation of the heating area distribution  
of black liquor multiple effect evaporation plants*

## Academic positions

Assistant Professor of Chemical Engineering,  
Lund Institute of Technology, Lund University, 1973 – 1975

External Associate Professor of Chemical Engineering, Lund Institute of Technology,  
Lund University, 1979 -

Adjunct Professor of Food Engineering, Lund Institute of Technology, Lund  
University, 2001-

## Industrial positions

Chief Consultant Process Analysis, Alfa-Laval, Tumba, Sweden, 1975 – 1977

Project Manager R&D, Alfa-Laval Food & Dairy Engineering, Lund, Sweden, 1977 – 1985

Technical Manager Evaporation, Alfa-Laval Food & Dairy Engineering, Lund, Sweden, 1985 – 1993

Senior Specialist Heat Transfer & Rheology, Tetra Pak Key Components, Lund, Sweden, 1993 – 1994

Company Specialist Heat Transfer & Fluid Mechanics, Tetra Pak Processing Systems, Lund, Sweden, 1994 – 1995

Chief Consultant Heat Transfer & Rheology, Tetra Laval Food, Lund, Sweden, 1995 – 1996

Chief Consultant Heat Transfer & Rheology, Tetra Pak Food & Beverage, Lund, Sweden, 1996 – 1998

Application Co-ordination Manager, General Consultant Heat Transfer & Rheology, Tetra Pak Processing Components, Lund Sweden, 1998 - 1999

Company Specialist Heat Transfer & Fluid Mechanics, Tetra Pak Processing Components, Department of Heat Transfer, Lund, Sweden, 2000 –

#### **Member of examination boards**

PhD Thesis, Chemical Engineering, Lund Institute of Technology, Lund University, 1981 (Lennart Persson)

PhD Thesis, Chemical Engineering, Lund Institute of Technology, Lund University, 1981 (Sven Ragnarsson)

PhD Thesis, Food Engineering, Lund Institute of Technology, Lund University, 1995 (Johan Fregert)

PhD Thesis, Chemical Engineering, Lund Institute of Technology, Lund University, 1998 (Jeanette Lindau)

Associate Professor, Food Engineering, Lund Institute of Technology, Lund University, 1999 (Eva Tornberg et al.)

Professor, Food Engineering, Lund Institute of Technology, Lund University, 2000 (Marie Paulsson)

Associate Professor of Industrial Rheology, DTU, Denmark, 2005 (Sarah L. Mason and Per Muhrbeck)

Associate Professor in Food Rheology and Food Structure Engineering, DTU, Denmark, 2008 (six applicants)

PhD Thesis, Food Engineering, Lund Institute of Technology, Lund University, 2009 (Hanna Bengtsson)

## **Supervision of PhD thesis projects**

Assistant supervisor in the following PhD thesis projects:

Olga Santos, 2004: "Whey protein adsorption and aggregation on modified stainless steel surfaces in relation to fouling"

Eva Olsson, 2005: "Jet Impingement and Infrared Heating of Cylindrical Foods. Flow and Heat Transfer Studies"

Marcus Henningson, 2005: "Loss Minimisation in Dynamic Food Processes"

Mårten Regner, 2006: "Numerical Studies of Mixing in Pipes and Static Mixers"

Johan Wiklund, 2007: "Ultrasound Doppler Based In-Line Rheometry - Development, Validation and Application"

Elena Bayod, 2009: "Microstructure and rheological properties of concentrated tomato suspensions during processing"

## **Supervision of MSc thesis projects**

Around 30 MSc thesis projects initiated and supervised between 1976 and 2009.

## **Language**

English  
German  
(French)

## **International research co-operation**

"Methodologies for studying the heating & cooling of mixtures of solids & liquids in heat exchangers", LINK Project AFM 48, UK, funded by Ministry of Agriculture, Fisheries and Food (MAFF), 1995 – 1999. Supervisor Prof. J. Richardson, University of Swansea, UK. Participants from Campden & Chorleywood Food Research Association, Chipping Campden, UK, University of Birmingham, UK (Prof. Peter Fryer and two PhD students) and from British food industry.

"Heat recovery using medium to high viscosity products in counter current heat exchange", funded by ETSU, UK, 1999 - 2001. Participants from Campden & Chorleywood Food Research Association, Chipping Campden, UK, and from British food industry.

"Improvement of construction materials used in the food industry to lengthening processing time (MODSTEEL)", EC Contract N° G5RD-CT-1999-00066,. Participants from European universities, steel manufacturers and food producers.

"Innovations in heat recovery systems for tubular heat exchangers", LINK Project AFM 126, UK, funded by Ministry of Agriculture, Fisheries and Food (MAFF), 2001 - 2004. Supervisor Dr. C. Goodacre, MAFF. Participants from Campden &

Chorleywood Food Research Association, Chipping Campden, UK, University of Plymouth, and from British food industry.

“Computational design of tubular heat exchangers”, Development LINK Project AFM 237, UK, Funded by Department for Environment Food and Rural Affairs (DEFRA), 2005. Supervisor Dr. C. Goodacre, MAFF. Participants from Campden & Chorleywood Food Research Association, Chipping Campden, UK, University of Plymouth, and from British food industry.

## Patents

Bolmstedt, U. & Jernqvist, Å., *Inlet device for plate heat exchangers*, SE 417 458 + GB, FR, CA, US

Bolmstedt, U. et al., *Plate evaporator*, SE 424 143 + AU, BR, GB, FR, IT, JP, DE, US, ZA

Bolmstedt, U. et al., *Plate heat exchanger*, SE 426 653 + GB, JP, US

Bolmstedt, U. & Johansson, B.O., *Device for changing the number of part streams of a flowing medium*, SE 448 250 + AU, BR PI, GB, IT, DE, US

Bolmstedt, U. & Lundblad, B., *Heat exchanger of falling film type*, SE 85902190-9 + AU, BE, BR PI, GB, FR, NL, IT, JP, CH, DE, US, AT

Bolmstedt, U. & Johansson, B.O., *Inlet device in plate evaporator*, SE 85905125-2 + AU, BR PI, GB, IT, LU, DE, US

## Teaching at undergraduate academic courses

Physical Chemistry, Lund Institute of Technology, 1970 – 1973.

Chemical Engineering, Lund Institute of Technology, 1971 – 1975.

Food Engineering, Lund University, 2001 –

## Publications

Bolmstedt, U., *INDUNS – a computer program for calculation of general multiple effect evaporation plants*, Dept. of Chemical Engineering, Lund Institute of Technology (1972)

Bolmstedt, U., *INDUNS – user’s manual*, Dept. of Chemical Engineering, Lund Institute of Technology, Report No. 74-F-4 (1974)

Bolmstedt, U., *The applicability of orthogonal collocation in simulation of the dynamic behaviour of a perfectly stirred tank*, Dept. of Chemical Engineering, Lund Institute of Technology, Report No. 74-F-1 (1974)

Bolmstedt, U., *DYNEFF – a computer program for simulation of the dynamic behaviour of general multiple effect evaporation plants*, Dept. of Chemical Engineering, Lund Institute of Technology, Report No. 74-F-6 (1974)

Bolmstedt, U. & Gudmundson, C., *Improved methods for design and evaluation of multiple effect evaporation plants*, Svensk Papperstidning 77(1), 27-37 (1974)

Bolmstedt, U., *Simulation of the steady state and dynamic behaviour of general multiple effect evaporation plants*, PhD thesis, Dept. of Chemical Engineering, Lund Institute of Technology, (1975)

Bolmstedt, U. & Jernqvist, Å., *Simulation of the steady state and dynamic behaviour of general multiple effect evaporation plants; Part 1: Steady state simulation*, Computer Aided Design 8(3), 142 – 148 (1976)

Bolmstedt, U., *Simulation of the steady state and dynamic behaviour of general multiple effect evaporation plants; Part 2: Dynamic simulation*, Computer Aided Design 9(1), 29 - 40 (1977)

Bolmstedt, U., *Multiple effect evaporation*, Proceedings, European Federation of Chemical Engineering, Örenäs, Sweden, September 7<sup>th</sup> – 9<sup>th</sup>, 337 – 51 (1977)

Aly, G. & Bolmstedt, U., *Multiple evaporation with MVR*, Proceedings, 2<sup>nd</sup> World Congress of Chemical Engineering, Montreal, II, 543 – 47 (1981)

Bolmstedt, U., *Experiences with the first and second generation of cassette evaporators*, Flüssiges Obst 57(9), 580 + 582 – 85 + 599 – 600 (1990)

Sannervik, J., Bolmstedt, U. & Trägårdh, C., *Heat transfer in tubular heat exchangers for particulate containing liquid foods*, Journal of Food Engineering 29(1), 63 – 74 (1996)

Bolmstedt, U., *High temperature apparent viscosity measurements and elasticity with Colflo 67 starch and CMC solutions*, Presentation at Heat Transfer, Mixing and Flow in Food Processing, MAFF/BBSRC Food LINK Programmes Dissemination Meeting, SCI, 14/15 Belgrave Square, London, UK (1998)

Bolmstedt, U. & Tucker, G., *Gently does it – tubular heat exchangers in continuous soups and sauces processing*, Liquid Foods International March (1999)

Bolmstedt, U., *Viscosity & rheology – considerations in liquid food processing*, New Food 3(2), 15 – 21 (2000)

Bolmstedt, U., *Heat transfer in liquid food processing*, New Food 3(3), 17 – 22 (2000)

Eriksson, I., Bolmstedt, U. and Axelsson, A., *Evaluation of a helical ribbon impeller as a viscosity measuring device for fluid foods with particles*, Applied Rheology 12(6), 303-308 (2002)

Persson, O. and Bolmstedt, U., *Heat Transfer and Pressure Drop in Spirally Corrugated Tubes*, Int. J. of Heat Exchangers IV(2), 161-177 (2003)

Roos, H., Bolmstedt, U. and Axelsson, A., *Evaluation of new methods and measuring systems for characterisation of flow behaviour of complex foods*, Applied Rheology 16(1), 19-25 (2006)

## **Memberships**

Member of the Nordic Society of Rheology  
Member of the British Society of Rheology

## **Skills**

Implementation and supervision of Lean Production, especially “5S” in workshops, offices and on computer servers.

Food rheology – theory, measurements, data evaluation, data adjustments, measurement system development, teaching.

Theoretical and practical fluid mechanics.

Theoretical and practical heat transfer.

Computer programming – FORTRAN, Basic, Visual Basic, Visual Basic for Applications (Microsoft Office).