



CV for Sten Bay Jørgensen (1939)

Degrees:

1969 PhD Technical University of Denmark

1963 MSc Technical University of Denmark

Positions: 2009- Professor Emeritus, 2006-1994 co-director and -founder of CAPEC, 1986 Professor at DTU Chemical Engineering, 1972 Associate Professor, 1971-1969 Research Associate at Department of Chemical Engineering, Columbia University, NY USA. 1969-1965 PhD student. 1965-1963 Military service.

Research Area: Biochemical and Chemical Process and Product Systems Engineering. The relevant fields of interest include: Chemical Process and Product Modelling & Design, Process Dynamics and Identification for Control. The relevant industries include oil, petrochemical, chemical, bio-chemical and pharmaceutical. Nonlinear process behaviour is of special relevance, since that when exploited for optimal operation can give rise to complex performance.

Memberships of scientific committees, review, positions of trust (selected):

Member of: Advisory Board for Center for Multiphase Flow, Sweden 2006-03, Industrial PhD scientific board 2001-1994, Scientific Advisory Board for Center for Bioteknologisk Procesforskning at DTU 2002-1992, Board of Danish Automation Society 1986-1995.

Chairman of DOE (Danish) Research committee on Industrial Processes and Products 1986-91.

Reviewer for research councils in Australien, England, Norway, Portugal, South-Afrika, Germany and Belgium. Opponent at doctoral defences in England, Belgium, Finland, Norway, Sweden, South-Africa and Germany.

ISI journal publications (WoS, September, 6th 2013): 123, Citations 1355, H-index 20, Patent accepted: 1.

Supervision of PhDs, 2008 – present (ongoing or finished in 2008 or later):

T39: Identification for Control, 2008.

T38: Optimal Experimental Design for Grey-Box Models 2008

Teaching and Education activities: Teacher in master and PhD education courses at DTU until early 2010 and in Biochemical Engineering PhD course under EFCE and EFB in 2010 and 2012.

Grants, 2008 – present (ongoing or finished in 2008 or later):

Several but all completed by mid 2009 or earlier.

Research collaboration with industry, 2008 – present (max 10):

Several but all completed by mid 2009 or earlier.

Journal Publications:

- P.126 Villadsen J, Jørgensen SB, 2013, Reflections on the aerobic fermentation stoichiometry of Crabtree positive yeasts. Accepted for publication by Bioengineering and Biotechnology.
- P.119 Prado-Rubio OA; Jørgensen SB; Jonsson G., 2011, "Reverse Electro-Enhanced Dialysis for lactate recovery from a fermentation broth", *Journal of Membrane Science* 374 p. 20–32
- P.110 Huusom JK, Poulsen NK, Jørgensen SB, 2009, "Improving Convergence of Iterative Feedback Tuning", *Journal of Process Control*, 19(4), pp. 570-578
- P.108 Rawlings , Bonn  D, Jørgensen JB, Venkat AN, Jørgensen SB, 2008, "Unreachable Setpoints in Model Predictive Control", *IEEE Transactions of Automatic Control*, 53, PP. 2209-2215
- P.106  kesson BM, Jørgensen JB, Poulsen NK, Jørgensen SB, 2008, "A generalized autocovariance least-squares method for Kalman filter tuning", *Journal of Process Control*, 18 pp 769-779
- P.101 Lin B, Recke B, Knudsen JKH Jørgensen SB, 2007, "A Systematic Approach for Soft Sensor Development", *Computers and Chemical Engineering*, 31(5), pp. 419-425
- P.98 Lim Y, Jørgensen SB, 2004, "A fast and accurate numerical method for solving simulated moving bed (SMB) chromatographic separation problems", *Chemical Engineering Science* 59, pp. 1931-1947
- P.96 Kristensen NR, Madsen H, Jørgensen SB, 2004, "Parameter Estimation in Stochastic Grey-Box Models", *Automatica*, 40 (2), pp. 225-237
- P.95 Gernaey KV, Loosdrecht MCM, Henze M, Lind M, Jørgensen SB, 2004, "Activated Sludge Wastewater Treatment Plant Modelling and Simulation: State of the Art", *Environmental Modelling & Software* 19, pp. 763-783
- P.93 Eden MR, Jørgensen SB, Gani R, El-Halwagi MM. 2004, "A Novel Framework for Simultaneous Separation Process and Product Design", *Chemical Engineering and Processing*, 43, pp. 595-608.
- P.65 L bbert A, and Jørgensen SB 2001, "Bioreactor Performance: a more scientific approach for practice" *Journal of Biotechnology* 85 pp. 187-212
- P.55 Lei F, Rotb ll M, Jørgensen SB, 2001, "A Biochemically Structured Model for *Saccharomyces cerevisiae*", *Journal of Biotechnology*, 88 pp. 205-221.
- P.52 Gregersen L, Jørgensen, SB, 1999, "Industrial Fed-batch Fermentation Monitoring" *Chem. Engng. J.* 75 pp.69-76.
- P.41 Zangirolami TC; Johansen CL, Nielsen J, Jørgensen SB, 1997, "Simulation of Penicillin Production in Fed-batch Cultivation using a Morphologically Structured Model". *Biotechnology and Bioengineering* 56 pp. 593-604.
- P.32 Bossen BS; Jørgensen SB, Gani R, 1993, "Simulation, Design and Analysis of Azeotropic Distillation Operations". *I. & E.C. Research* 32 pp. 620-633.
- P.6 Leonard EF, Jørgensen SB; "The analysis of Convection and Diffusion in Capillary Beds", 1974, *Annual Review Biophys. Bioeng.* 3 pp 293-339

Patent:

WO2008052542-A1: Lin B, Recke B, Schmidt TM, Knudsen JKH, Jørgensen SB: "Cement kiln process parameters e.g. flow-rate, determining method for use in rotary cement kiln system, involves performing partial least squares regression on obtained process measurement and item of data"