

Björn Bergqvist - CV

Day of birth: 1971

Location: Göteborg

Education:

1990-1996 Mechanical Engineering 180 p, Linköping Institute of Technology

1987-1990 High school diploma in Engineering, Göteborg

Courses:

2011 modeFRONTIER advanced course, 2 days

2011 Boostbusters gasväxlingskurs, 2 days

2011 Introduction to modeFRONTIER, 2 days

2008 Multiphase Flow Modelling - doctoral course, 6 days

2002 Basic STAR-CD Training Course, 3 days

2001 CFX Introductory course, 4 days

2000 Leadership and positive influence, 1 weeks

2000 ABAQUS Introductory course, 4 days

1998 Pro/Mechanica, 1 week

1997 Pro/Engineer, 1 week

Languages: Swedish

English, speak and write fluently

Current Position: CFD Engineer

Employments:

2007- FS Dynamics Sweden AB

2005-2007 Epsilon Hightech AB

2001-2005 ÅF-Process AB

1996-2001 SCA Hygiene Products

Main Profile:

Physical calculations (flow analysis, stress analysis and more). Mainly CFD (Computational Fluid Dynamics)

Software: Fluent, STAR-CD, Star CCM+, Pro/Engineer, Matlab, Simulink, Linux

Programming: Perl, Ruby and C++

Employments:

FS Dynamics Sweden AB

2011 Optimization of flow uniformity
Software: Star-CCM+, modeFRONTIER
Assigner: Volvo Powertrain AB

2011 EGR-mixing
Software: Star-CCM+, GT-Power (coupled to CCM+)
Assigner: Volvo Powertrain AB

2010 Thermal Engineer
Software: Icepak
Assigner: Ericsson AB

2010 Parametric study of heat sink in Icepak
Software: Icepak
Assigner: SAAB Microwave

2010 Wind-induced forces on large rotating antenna.
Software: OpenFOAM snappyHexMesh for meshing and Fluent for flow calculation.
Assigner: SAAB Microwave

2009 Super-element creation of engine
Software: Ansa and Ansys (classic)
Assigner: Volvo Truck

2009 CFD simulation of large vehicle exhaust system with ejector effect for engine room ventilation
Software: Gambit and Fluent
Assigner: Mueller-BBM

2009 Explosion simulation in ship exhaust system
Software: FS Dynamics method made in Star-CD 3.26
Assigner: Wärtsilä Finland OY

2009 Meshing of lab burner
Software: Gambit
Assigner: Vattenfall

2009 Optimization of propeller nozzle
Software: Ansa, Star-CCM+ and modeFRONTIER
Assigner: Bergs propulsion

2009 Modeling of seed dryer
Software: Ansa, Fluent
Assigner: Tornum

2009 Paraview introduction course
Software: Paraview
Assigner: Tetrapak and JBT FoodTech

2009 Tuning of oxidation model for modeling SAI (6 months)
Software: STAR-CD 3.26
Assigner: GM Powertrain Europe

2007-2008 Large truck Euro6 CFD simulations, temperature calculations exhaust outlets (1 year)
Software: ICEM mesh software, Fluent
Assigner: Swenox AB

2007- Administration of SGE (Sun grid engine) on a rocks cluster
Software: Sun Grid Engine, perl submit script creation
Assigner: FS Dynamics Sweden AB

Epsilon HighTech

2005-2007 External Aerodynamics (CFD) (2005-09-2006-05) + (2006-08 - 2007-04..) => 9 + 5 = 17 months
Software: StarCD, ES-Aero, Fluent, Ansa, OVAL (transition from StarCD - ES-Aero to Fluent - OVAL was made during assignment)
Assigner: SAAB Automobile

2006 System simulation of brake booster.
Software: Matlab Simulink
Assigner: SAAB Automobile

2006 Defroster simulation (HVAC)
Software: Fluent
Assigner: SAAB Automobile

ÅF-Process AB

2005 System simulation of temperature response in a container. Iron powder is mixed in the container. The simulation was made in Scicos which is a equivalent to Simulink in Matlab.
Software: Scicos
Assigner: Höganäs AB

2005 CFD calculation of flow and temperature field in a steel industry roller assembly.
Software: Fluent
Assigner: SKF Industrial Division AB

2005 CFD calculation of cooling effect in a FFF machine (Free Form Fabrication).
Software: Fluent
Assigner: Speed Part RP AB

2005 Calculation of pressure in steam pipes and a steam separator for fulfillment of standard directive SS-EN 13480.

Software: Caepipe, Visual Vessel Design for the steam separator
Assigner: Holmen Paper, Madrid

2005 CFD analysis of waste boiler.
Software: Fluent
Assigner: Kvaerner Power AB

2004 CFD calculation of rotation air cleaning tool. A parametric mesh was made with a perl script.
Software: StarCD
Assigner: SKF MDC

2004 Calculation of pressure in pipes for fulfillment of standard directive SS-EN 13480 in a thermal power station.
Software: Pressure calculation was made in Caepipe and pressure loss calculation in Flowmaster.

Assigner: KVV Munkegärdeverket
2004 Strength analysis/evaluation of Connection Plug.
Software: Pro/Engineer (just some shear stress areas was calculated)
Assigner: Brink Sverige AB

2003 Flow analysis of cavity in a grind disc
CFD-calculation of boiling
Software: Fluent (StarCD didn't work)
Assigner: SKF MDC.

2003 Flow analysis of air cleaning tool.
Software: Starcd
Assigner: SKF MDC.

2002 Combined thermal and flow analysis of laser unit.
Assigner: Saab Avionics

Finite element analysis of a Pullmax punching machine.
Software: ADINA
Assigner: Pullmax through ÅF-Industri teknik

Finite element analysis of a pressurized tubel.
Assigner: Kvaerner Pulping AB

Flow analysis of air cleaning tool.
Software: StarCD
Assigner: SKF MDC

2001 Development of a replenishment model.
Assigner: SKF MDC

2001-2005 Linux and Unix administration.

1996-2001 SCA Hygiene Products

Main task was from the beginning to develop calculation methods for certain parts of a diaper machine where pulp fibres is transported by air. Later on absorption calculations were made. Where responsible for contacts with universities and consultants.

Project example:

Glue system modeling

During speed increases on the diaper machines the glue system was to slow (which led to a couple of products with less glue). Solved the problem by calculate an “ideal” speed curve for the glue pump. A simplified variant of that curve was implemented in these machines.

Fluff Pad Machine Design

A recurring task. Ofte performed together with a design engineer. After the design phase the machine had to be fine tuned in the factory. The tuning involved some flow measurements.

Absorption simulation in SAP/pulp mixtures

Achieve necessary material data for absorption simulation of a SAP/pulp mixture. Sensitivity analysis of material parameters.

Short description of absorption simulation: The fluid penetrates the porous structure by diffusion. The SAP (Super Absorbent Polymers) capture the fluid and expand the structure. The structure often expand more than 3 times its initial thickness (volume).

Pressure drop analysis of non-newtonian fluids through porous media

Analysis of permeability with a couple of blood types and test fluids through porous materials with different bulk density. When the flow speed was changed the permeability rank between the materials also was changed (because of different shear thinning in the blood).

- Optimisation of hammers in a pulp grinder. 2-dimensional CFD-analysis (sliding mesh)
- Hydroentangling CFD analysis.
- Transient fluff machine calculation to find sound generation place.
- CFD-analysis of flow around glue nozzle.
- Optimisation of suction box.
- Finite element analysis of towel paper to evaluate elasticity depending on embossing pattern.

Example of external contact:

ITWM, university in Kaiserslauten

Analysis of tissue micro structure. Permeability analysis of tissue by image analysis coupled with 2- or 3-dimensional flow simulation of the same structure.