

Tor-Björn Johansson



PERSONAL DATA

- Johansson Anders Tor-Björn, born 1962 in Sweden
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JOB OBJECTIVE

After several years at academic level and in the industry, my ambition is to contribute by teaching others. Providing up to date knowledge to those who are able to implement this in their daily work would bring me the greatest satisfaction. From own practical experience from industrial electrician to researcher I know the need to link new knowledge with the experience and pre-knowledge of the customer; the student. Or with other words: I understand the need to and I will strive to, adapt the lessons and lesson material to my audience.

Special interests: People manager, Optics, Illumination, Sensing, Renewable energy

PROFILE & ADDED VALUE

My experience is in the true sense broad, ranging from theoretical studies through experience in electrical installation, measuring electrical and optical properties to practical experience with material properties and production techniques. This has given me a strong ability of linking theory and practical implementation. This versatile set of experiences together with my less traditional career and a burning eager of finding new ways make me truly innovative.

Experience of guiding and leading engineers (especially the young and less experienced), making their eager and ambition compatible with project schedules and generating customer satisfaction.

SUMMARY OF MAIN QUALIFICATIONS

- Masters in Electrical Engineering
- PhD in applied science
- Research engineer: BARCO Central Lab; BARCO Vision
- Product development: Philips Innovative Application UHP (Philips Lighting)
- Product development + Team Leadership: ICOS Vision Systems

EDUCATION

- Masters in Electrical Engineering Chalmers Technical University, Gothenburg, Sweden 1984-1990¹
- PhD in applied science K.U. Leuven, Belgium 1990-1995

Training

- "Visualisatietechnologie" BARCO Sept-Oct 97 (16hours)
- "Optische Umweltmeßtechnik" 26 DGaO-Schule Optic Fraunhofer-Institut für Angewandte Optik und Feinmechanik Sept 97 Jena (3days)
- "OptiCAD User Course" Optima Research April 98 (3days)
- "Geometrische optica" VION Nov 98 - May 99 (18hours)
- "Pro-E basics" Kortrijk 2000 (3days)
- "HTO – Licht" Eindhoven CDL 2003 (16days)
- "Mini-Tab basics" Turnhout 2003 (3days)
- "ICOS image processing methods" Leuven 2006, 2007, 2008 (2-5days x2/year)
- "Taking a head start in leadership" SD Works, Hasselt 2007 (2 days)
- "Digital Imaging, Image Capturing, Image Sensors, Technologies & Applications" CEI-Europe, Copenhagen 2007 (5days)
- "The People Manager" Vlerick Mng School, Gent 2008 (6days)

¹ Interrupted one year for working experience at SEMCON Engineering AB

WORK EXPERIENCE

- Product development Team Leader / project management
ICOS Vision Systemsⁱ, Heverlee, Belgium**
Components Inspection & Solar-Cell Inspection
- Responsible for leading a group of 6 R&M engineers
 - HR tasks; recruiting, training, evaluating, salary change, bonus
 - Leading and reporting all projects from this group (50-100/year)
 - Main technical achievements:
 - Application for memory Card inspection as μ SD, SD, etc. (>90% of all cards produced world wide are inspected with this appl.)
 - Novel solutions for illuminations; improved contrast, smaller, higher intensity, lower price.
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- Product development / project management
Philips Innovative Applicationⁱⁱ, Turnhout, Belgium**
UHP Lamp Development
- Project manager for new lamps. Managed the development and release of 4 new lamps including first successful dual sourcing of reflectors.
 - Managed 3 improvement projects including first successful implementation of measurement equipment for outgoing inspection at reflector suppliers in Germany and Japan.
 - Provided in-house expertise on various physical phenomena's as spectral content vs heat production, geometrical and optical measurement methods.
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- Applied R&D and project management
LCI SmartPenⁱⁱⁱ, Leuven, Belgium**
- Research and product developments of biometrics sensors in the context of data communication
 - Development and improvements of production and production techniques such as injection moulding, gluing and soldering.
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- Corporate R&D - the sensor group (1997 – 1999).
Applied R&D - the OEM group (1999 – 2001).
BARCO Vision^{iv}, Kortrijk, Belgium**
- Developing, building prototypes and preparing for patenting and manufacturing of a new type of sensor, measuring the quality of yarn during spinning. This was enabled through introducing and applying none sequential optical simulation and combining this with CAD and mathematical software.
 - Developing low-cost precise distance measuring device.
 - Developing non-contact precise angle measuring device.
 - Following the state of the art development of sensors through conference and scientific journals.
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- Research Assistant
KU Leuven Research & Development, Belgium
ESAT-PSI^v**
- Research on CBIR (Content Based Image Retrieval). I hereby gained, among other things, an increased understanding of human colour perception and colour handling in digital imaging.
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- Research Assistant
Katholieke Universiteit Leuven, Belgium
ESAT-ELECTA^{vi}**
- Research on electrostatic micromotors in the BRITE/EURAM project "Study on new materials and new advanced micromotors and microactuators".
 - Training and support for customers of the finite element software
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package MagNet for which the department was the European agent.

- All the educational tasks expected of a research assistant including guiding five students to as many successful master thesis's.
- Completing and defending my PhD titled "Optimised Design of Electrostatic Micromotors".

Other Work Experience includes

1987 – 1988 SEMCON ENGINEERING AB ^{vii}, Trollhättan Sweden

1983 – 1984 INFRARÖDTEKNIK AB ^{viii}, Vänersborg Sweden

VOLUNTEER EXPERIENCE

Since 1995	<p>Chairman of Svensk Samling i Antwerpen (http://home.scarlet.be/svesam/)</p> <p>Organising activities for Swedes and Swedish speaking people.</p> <p>Organising education in "complementary Swedish" for children with Swedish origin.</p>
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COMPUTER PROFICIENCY

Hardware	Operating Systems	Software	type	knowledge level
PC	WINDOWS UNIX DOS	OptiCAD	Optical	expert
		MatLab	Math	expert
		Minitab	Math	basic
		LabView	Lab	basic
		MS Office	General	expert
		MagNet	FEM	expert
		Pro/Engineer	CAD	basic
		SpinFire	CAD	expert
		E-drawing	CAD	expert
		Goggle Sketch	CAD	expert

SCIENTIFIC INSTRUMENTATION

Oscilloscopes, Data loggers, Multi meters, Lux meters, Spectral meters, enc., enc.

PUBLICATIONS	See appendix 1
LANGUAGES	<ul style="list-style-type: none"> • Swedish understand, read, speak, write (native language) • English understand, read, speak, write • Dutch understand, read, speak, write • German understand, read, (speak) • Norwegian understand, read • Danish understand, read

ACTIVITIES/INTERESTS

Skiing; Dance; Travel; Motorbikes

APPENDIX 1

List of Publications

PROCEEDINGS

R.Belmans, D.Verdyck, T.B.Johansson, W.Geysen, R.D.Findlay: "Calculation of the No-Load and Torque Speed Characteristic of Induction Motors Using Finite Elements", **ICEM '90**, Cambridge, Massachusetts, August 13-15, 1990, Part 2, pp.724-729.

R.Belmans, D.Verdyck, T.-B.Johansson, W.Geysen: "Comparison of starting conditions of induction motors fed from an infinite bus and current source inverter using finite element calculations", **EPE '91**, Fourth European Conference on Power Electronics and Applications, Firenze (Italy), September 3-6, 1991, pp.2.375-2.378.

T.-B.Johansson, M.Van Dessel, D.Verdijsck, R.Belmans, W.Geysen, R.Hanitsch: "Contribution to the design of micromotors", **UPEC '91**, 26th Universities Power Engineering Conference, Brighton (UK), September 18-20, 1991, pp.449-452.

T.B.Johansson, M.Van Dessel, R.Belmans, W.Geysen, R.Hanitsch: "An optimisation scheme of electrostatic micromotors based on an Equivalent Circuit - Finite Element approach.", **ICEM '92**, UMIST Manchester UK, September 15-17 1992 pp. 1157-1161.

T.B.Johansson, M.Van Dessel, R.Belmans, W.Geysen, R.Hanitsch: "Design and optimisation of electrostatic micromotors", **ISIE '93**, IEEE International Symposium on Industrial Electronics, Budapest, Hungary, June 1-3 1993, pp.638-643.

R.Belmans, T.B.Johansson, U.Pahner, E.Freeman, D.Lowther, "CAD in electromagnetics: from research project to design tool", **ILED '93**, dmi International Conference on Design to manufacture in modern industry, Slovenija, June 7-9 1993, pp.635-640.

T.B. Johansson, M. Van Dessel R. Belmans W. Geysen, "Technique for finding the optimum geometry of electrostatic micromotors.", **IAS '93**, IEEE Industry Applications Society 28th Annual Meeting, Toronto, Ontario, Canada, October 2 - 8 1993, pp. 1823-1830.

T.B. Johansson, R. Belmans, "Automated 3D Mesh Generation suited for Optimisation", **EMF '94** Second International Workshop on Electric and Magnetic Fields, Leuven, Belgium, May 17 - 20, 1994, pp 39-42.

T.B. Johansson M. Van Dessel, K. Hameyer, R. Belmans, "Optimization of Electrostatic Micromotors using 3D Finite Elements", **SIMS '94**, Scandinavian Simulation Conference, Stockholm, Sweden, August 17 - 19 1994, pp. 297-302.

T.B. Johansson, K. Hameyer, R. Belmans, "3D Optimisation of Average Torque of Electrostatic Micromotors", **MST '94**, MICRO SYSTEM Technologies 94, Berlin, Germany, October 19 - 21 1994, pp. 949-957.

M. Van Dessel, S. Henneberger, T.B. Johansson, R. Belmans, "Design and Optimisation of Extra Small and Micromotors", **ISATA '94**, 27th ISATA / MECHATRONICS, Aachen, Germany 31 Oct - 7 Nov 1994, pp. 115-122.

TB. Johansson, K. Hameyer, R. Belmans, "Technique Calculating Equivalent Circuit Models for Electrostatic Micromotors using 2D or 3D Finite Elements", **COMPUMAG '95**, Berlin, Germany, July 10-13, 1995, pp 264-265.

TB. Johansson, K. Hameyer, R. Belmans, "Equivalent Circuit Technique for Electrostatic Micromotors", **ISEF '95**, Thessaloniki, Greece, 25-27 September, 1995, pp. 217-220.

TB. Johansson, K. Hameyer, R. Belmans, "Automated Simulation and Analysis of Electrostatic Micromotors", **MICROSIM '95** First International Conference on Microsystems and Microstructures, Southampton, UK, 26-28 September, 1995 pp. 121-128.

JOURNALS

T.B. Johansson, M. Van Dessel R. Belmans W. Geysen, "Technique for finding the optimum geometry of electrostatic micromotors." **IEEE Transactions on Industry Applications**, July / August 1994, Volume 30 Number 4, pp. 912 - 919.

TB. Johansson, K. Hameyer, R. Belmans, "3D Optimisation of Average Torque of Electrostatic Micromotors", **MST Journal on Microsystem Technologies, Sensors Actuators System Integration**, Volume1, Number 2, March 1995, pp 98-103

T.B. Johansson, K. Hameyer, R. Belmans " Methods and Tools for the Design of Electrostatic Micromotors." **ED&TC '96**, European Design & Test Conference, Paris, March 1996.

APPENDIX 2

Footnotes with short description of the companies and organisations of this CV

ⁱ **ICOS Vision Systems**, situated in Leuven Belgium, develops and manufacture machines vision systems for automated inspection in the semiconductor industry, the electronic industry and the photovoltaic industry. The company was acquired by KLA-Tencor July 2007.

ⁱⁱ **Philips Innovative Application**, department UHP, situated in Turnhout Belgium, develops and manufactures high pressure arc lamps for the video projector market.

ⁱⁱⁱ **LCI Smartpen** was situated in Heverlee Belgium, did develop a pen for electronic signatures. The pen registered and transmitted the biometric information of a persons unique sequence of motions when writing his or hers signature. The company was in 2002 dragged down in the bankruptcy of the mother company LCI Technologies.

^{iv} **BARCO N.V.** with head office in Kortrijk Belgium, develops and manufactures various consumer and professional electronic equipment for the visualization market. BARCO N.V. had until 1999 its own research centre. From 1999 and on this was distributed over the different company groups. BARCO Vision (more recently called visionBMS) develops and manufactures sensors for the textile industry.

^v **ESAT-PSI** situated in Heverlee Belgium, is the Processing Speech and Imaging group, which is part of ESAT, the Electrical Engineering department of KU Leuven.

^{vi} **ESAT-ELECTA** situated in Heverlee Belgium, is the Electric Energy & Computer architecture group, which is part of ESAT, the Electrical Engineering department of KU Leuven.

^{vii} **SEMCON Engineering AB** is today called SEMCON AB and is situated in Gothenburg Sweden. It is an engineering company specialised in Industrial Design in Electrics, Mechanics and Automotive.

^{viii} **Infraröd Teknik AB** is situated in Vänersborg Sweden and is developing and manufacturing industrial heating systems, heating by infrared radiation.