

Resumé for Henrik Østergaard Madsen

Born: 21st December 1963

Married and have two kids.

Nationality: Danish

Address: Mosegård Park 42, 3500 Værløse, Denmark

Phone 44484492, Mobile 30940288

E-mail: henrik@ostergaard.net



Education :

2001-2003: Project Manager diploma education at IBM

1994-1996: HD first part at CBS in Copenhagen.

1989-1992: PhD at Institute of Physics, DTU, at the Center for Modelling, Non-linear Dynamics and Irreversible Thermodynamics (MIDIT) and Institute of General Physiology and Biophysics (IAFB) at the Panum Institute. The subject was non-linear models of cell membranes.

1983-1989: Civil Engineer at DTU. Specialized within modelling and dynamic simulation backed by mathematical analysis, statistics, computer science, artificial intelligence, chemistry, physiology and theoretical physics.

Professional career :

2016- Senior Consultant in TechPeople A/S. Development of embedded software on various projects:

2019- Widex: Development of a BLE application til hearing aids in C++. Microchip Hummingbird ARC/BLE processor. Cmake, MFI and ASHA streaming, ScmRTOS, Google Test/GMock, Offshore outsourcing. Jenkins/Jira/Bitbucket.

2016-2019 Sennheiser Communication: Development of Bluetooth products for audio. Bluetooth 1.0 – 4.0, CSR BlueCore 8670, Eclipse, SVN, USB 2.0 device Audio & HID, Multicall control. Offshore outsourcing og project management. Development of a DECT telephone. Audio and Call control, USB 2.0 host & device, Dialog chipset, PIC32MX. Jenkins/Jira.

2016 LinkAiders: Software for emergency reporting terminals based on the Neo-Cortec mesh-network Ultra low power Ti MSP430 processor, iInk display.

2012-2016 Software Architect and firmware developer at Phase One A/S. Development of firmware for medium format digital backs and cameras. Realtime control of CCD og CMOS imaging sensors ao. hardware, storage, touch user interface and high-speed communication (USB3 and FireWire) using a proprietary OS, primarily on Arm, iMX51 A9 and TMS32 M3. Worked with Greenhill Multi C++, Jenkins, Jira,

- Git, image processing, USB2+3, HDMI, project management, Continuous Integration, test and configuration management.
- 2010-2012 Consultant and Project Manager in Embedded People ApS. Project sales, system architecture.
- 2006-2011 Consultant at MAN Diesel & Turbo SE, project manager on several combined software and hardware projects on networked control and combustion monitoring of large diesel engines. Introduction of project development methods and later agile methods in the R&D department. The projects involved hard real-time embedded software, hardware, FPGA, real time systems, windows GUI's, distributed systems, automated tests, production preparation, certification tests, risk assessment, coaching. The techniques included VHDL, MODBUS, Arc-net, TCP/IP, C++-builder, Synergy, Perl, PHP, unittest, usability, requirement specification, usecases.
- 2005-2006 Software development consultant and project manager on in- and outsourced projects. Projects within Z-Wave and ARM-based control units for monitoring domestic electricity usage. Low-power medico-devices with DSP's, design, development and production of complete units with mechanics, hardware, software and Windows GUI. Assessment of choice of technology in an industrial communication and control network. Fast prototyping. Programming in C, C++, assembler, AVR-studio, C++-builder, VisualDSP++, CVS, IrDA, WinCE, Linux, UML.
- 2005-2010 Employed at Embedit A/S, later acquired by Data Respons A/S as a consultant within software and project management.
- 1995-2005 Employed at Maridan ApS developing the company's unmanned underwater vehicle. Worked with general system design, focused on the communication system and distributed control system, survey management and diagnosis system. By the company restructuring in 2002 manager for the software team and project manager on internal and external software projects. Technologies included mission critical, distributed hard real-time systems (CAN, Ethernet, WiFi), sensor- and actuator integration, architecture, design and development of both software, hardware and mechanics, customer support, automated tests, FAT. Programming x86 and 8051 assembler, C, C++, Keil, C++-builder, OS9, Win32, HTML, Javascript. Visual Sourcesafe. UML, designpatterns, multiplatform software development.
- 1991-1995: Software developer at Reson A/S working with the company's products of ultrasound control modules for SONAR's, underwater and industrial ultrasound transducers, and vision DSP solutions. Programming on processor, PLC, and PC level. Responsible for development of transducer simulation tools. Project manager on internal EU development projects under MAST-II. Worked with PLC, Pascal, C, and PIC, x86, and ADSP21xx assembler.
- 1989-1991: PhD-student at Physics Laboratory, System dynamics group/MIDIT, DTU. This included associate teacher in Atomic and Nuclear Physics.
- 1985-1989: Associate teacher (student job) at Institute of Mathematics, DTU.
- 1983-1985: IT technician (student job) at Programme of Technology Assessment, WHO.
- 1981-1983: Laboratory assistant (student job) at Finsen Institute of cancer research.

Supplementary education:

- 2009: Agile Project Management at GoAgile
- 2006: MS Project 2003 at 4D konsulenterne
- 2005: Z-Wave course at Zensys
- 2005: Windows CE at CSI
- 2001: OOA and OOD using UML at Teknologisk Institut
- 2001: TCP/IP at Data Respons

Languages:

Danish as First language, English fluently spoken and written, German and French on a tourist level.

List of publications:

- H. Ø. Madsen, P. Christensen, and K. Lauridsen. [Securing the operational reliability of an autonomous mini-submarine](#). Reliability Engineering & System Safety. **68**. 7-16. 2000
- H. Ø. Madsen. [Mission Management System for an Autonomous Underwater Vehicle](#). Proceedings of the 4th IFAC conference on Manoeuvring and Control of Marine Craft. Z. Vukic and G. N. Roberts, eds. Brijuni, Croatia. 31-35. 1997.
- P. Christensen, K. Lauridsen, and H. Ø. Madsen. [Function-oriented Failure Diagnosis Generation for Autonomous Submarine Navigation](#). Proceedings of the 5th International Workshop on Advances in Functional Modeling of Complex Technical Systems. Paris, France. 1997.
- P. Christensen, K. Lauridsen, and H. Ø. Madsen. [Failure Diagnosis and Analysis for an Autonomous Underwater Vehicle](#). Proceedings of the European Safety and reliability Conference, ESREL '97, C. G. Soares ed. Lisbon, Portugal. 2301-2308. 1997.
- H. Ø. Madsen, A. Bjerrum, and B. Krogh. [MARTIN - an AUV for Offshore Surveys](#). Proceedings of the Oceanology International '96. Brighton, UK. 1996. Also in Underwater Systems Design, May/June 1996, **18:3**, 21-25.
- S. D. Kamminga, A. Plaisant, C. Camporeale, D. Nijveldt, H.Ø. Madsen. [Velocity and Refraction Index Profiling by Acoustic Remote Sensing \(Project VERIPARSE\)](#). Marine Science and Technologies, Proceedings from the 2nd MAST days and EUROMAR market. M. Weydert, E. Liptatou, R. Goñi, C. Fragakis, M. Bohle-Carbonell, K.-G. Barthel, eds. European Commission, DG XII, Brussels. 879-893. 1995.
- S. D. Kamminga, A. Plaisant, C. Camporeale, D. Nijveldt, H. Ø. Madsen. [Modelling of acoustic volume reverberation to estimate velocity, refraction index and turbulence profiles](#). Underwater acoustics, Proceedings of the 2nd European Conference on Underwater Acoustics, L. Bjørnø ed. European Commission, Luxemburg. 141-146. 1994.
- H. Ø. Madsen. [Nonlinear Models for Excitable Cells](#). Ph.D. Thesis. Physical Laboratory III, System Dynamics Group, Technical University of Denmark. 1992.

- M. Colding-Jørgensen, H. Ø. Madsen, B. Bodholdt and E. Mosekilde. **Minimal Model for Ca^{2+} -dependent Oscillations in Excitable Cells**. Journal of Theoretical Biology, **156**, 309-326. 1992.
- E. Govekar, I. Grabec and H. Ø. Madsen. **Estimation of Drill Wear from AE Signals using a Self-organizing Neural Network**. Proceedings of the AEWG joint meeting incorporating the 4th World Conference on Acoustic Emission and the 1st International Conference on Acoustic Emission in Manufacturing, Boston, Massachusetts. 65-71. 1991.
- M. Colding-Jørgensen and H. Ø. Madsen. **The Kicked Oscillator: A Model for the Fractal and Chaotic Impulse Transmission Between Nerve Cells**. Modeling and Simulation, Proceedings of the 1991 European Simulation Multiconference, E. Mosekilde ed. 787-791. 1991.
- H. Ø. Madsen and M. Colding-Jørgensen. **Discontinuous Oscillations: A link between Catastrophe Theory and Non-linear Dynamics**. Modeling and Simulation, Proceedings of the 1991 European Simulation Multiconference, E. Mosekilde ed. 809-813. 1991.
- H. Ø. Madsen, M. Colding-Jørgensen and B. Bodholdt. **A Discontinuous Model for Membrane Activity**. Complexity, Chaos and Biological Evolution. E. and L. Mosekilde, eds. Plenum Press, London. 155-162. 1991.
- M. Colding-Jørgensen, H. Ø. Madsen, B. Bodholdt and E. Mosekilde. **A Simple Model for Ca^{2+} -dependent Oscillations in Excitable Cells**. Modelling and Simulations, proceedings of the 1990 European Simulation Multiconference, B. Schmidt ed. 630-635. 1990.
- H. Ø. Madsen, C. Knudsen, R. Feldberg og B. Bodholdt. **Introduktion til Dynamisk Simulering**. En lærebog for Gymnasiet. MIDIT, Danmarks Tekniske Højskole. 1. edition 1990, 2. edition 1991.
- H. Ø. Madsen. **Modeller for Cellulær Kommunikation**. Master Thesis, Fysisk Laboratorium III, Danmarks Tekniske Højskole. 1989.