

Curriculum Vitae

Personal data:

Name: Morten Hovd
Present position: Professor of process control, Engineering
Cybernetics Department, Norwegian University of Science and
Technology.

Education:

Institution	Duration	Course/degree
University of Salford, England	1982-1986	Natural Gas Engineering / BSc with Honours
Norwegian Institute of Technology, Department of Chemical Engineering	1989-1992	Process Control / Doktor Ingeniør (PhD)

Work experience:

Institution / Company	Department	Duration	Position
Institute for Continental Shelf Research	Center for Petroleum Related Process Technology	1986-1987	Engineer
Norsk Hydro	Process Technology Department, Technology and Development Division	1987-1989	Engineer
Sintef	Technical Chemistry Department	1992	Scientist
Fantoft Prosess	Process Control Group	1993	Engineer
Sintef	Technical Chemistry Department	1993-1995	Scientist
Fantoft Prosess	Process Control Group	1996-1997	Engineer
Fantoft Prosess	Process Control Group	1997-1998	Head of group
Norwegian University of Science and Technology	Department of Engineering Cybernetics	1998 – 2005-2008	Professor Head of Department

Consultancies: (company, date):

Fantoft Prosess 1998 – 2000
Sintef Electronics and Cybernetics 1999 – 2003
Honeywell HiSpec Solutions 2000 – 2003
Cybernetica 2004 – 2016

Other appointments and activities:

- IFAC Technical Committee on Mining, Mineral and Metals Processing, member.
- IEEE Technical Committee on Process Control, member
- Visiting professor, Mechanical and Aerospace Engineering Department, University of California San Diego, July 2002 – June 2003.
- Visiting professor, Department of Engineering, University of Cambridge, UK, August 2008 – August 2009
- Visiting professor, Department of Automatic Control, CentraleSupélec, France, August 2015 – July 2016.
- Editor, Modeling, Identification and Control (2004 - 2008).
- Board member, Norwegian Society for Automatic Control (2004 - 2008)
- Board member, Norwegian Society of Chartered Engineers, Researcher division (2012 - 2017)

Membership in professional organizations:

- Institute of Electrical and Electronics Engineers
- American Institute of Chemical Engineers
- Norwegian Society of Chartered Engineers (Tekna)
- Norwegian Society for Automatic Control (NFA)
- International Federation of Automatic Control, affiliate

Doctoral students:

Morten Hammer (2004). Thesis title: Dynamic Simulation of a Natural Gas Liquefaction Plant.
(Co-supervisor with prof. G. Owren, Dept. of Energy and Process Technology, NTNU).

Kristin Hestetun (2009). Thesis title: Use of Data from Anode Current Distribution for State and Parameter Estimation and Fault Detection in an Aluminium Prebake Electrolysis Cell.

Giancarlo Marafioti (2010). Thesis title: Enhanced Model Predictive Control: Dual Control Approach and State Estimation Issues.

Francesco Scibilia (2010). Thesis title: Explicit Model Predictive Control: Solutions via Computational Geometry.

Mohsen Vatani (2016). Thesis title: Advanced Control Methods for Power Converters: Focusing on Modular Multilevel Converters

Parsa Rahmanpour (2017). Thesis title: Model-based Control of the Czochralski Silicon Crystal Pulling Process.

Courses taught:

Modeling of continuous-time dynamical systems (1998)

Structures in process control (1999 – 2000)

Robust control (2001 – 2007)

Advanced process control (2001 – 2007)

Advanced control of industrial processes (2008 -)

Research interest and application areas

Theoretical interests:

- Control structure design
- Limitations on achievable control performance
- Model Predictive Control (MPC)
- State estimation
- Control performance monitoring
- Controller design and stability analysis for piecewise linear, piecewise affine, and polynomial nonlinear systems

Application areas: Large-scale systems such as chemical processes and electrical power transmission