Karl Johan Åström - Curriculum Vitae

Karl J. Åström was born in Östersund, Sweden on August 5, 1934. He was educated at the Royal Institute of Technology in Stockholm Sweden where he received his M.Sc. in Engineering Physics and the Ph.D. in Automatic Control and Mathematics.

From 1955 to 1960 Åström held teaching appointments at different departments at KTH, at the same time he worked on inertial guidance for the Research Institute of National Defense in Stockholm. Together with F. Hector of Philips he developed a new principle for Schuler tuning of an inertial platform which was successfully flight tested. He joined the IBM Nordic Laboratory in 1961 to work on theory and applications of computerized process control. He worked on optimal and stochastic control as a visiting scientist at IBM Research Laboratories in Yorktown Heights and San Jose in 1962 and 1963. Upon his return to Sweden, he was responsible for modeling, identification, and implementation of systems for computer control of paper machines. In 1965, Åström was appointed Professor to the Chair of Automatic Control at Lund Institute of Technology/University of Lund. He has held visiting appointments at many universities in USA, Europe, and Asia.

Åström has been Vice Dean and Dean of the Department of Engineering Physics and Chairman of the Computing Board at Lund University. He is an Editor of Automatica and many other journals.

Åström's interest cover broad aspects of automatic control, stochastic control, system identification, adaptive control, computer control and computer-aided control engineering. He has written five books and has contributed to several other books. He has written many papers and he holds three patents. The paper "Theory and Application of Adaptive Control," *Automatica* **19** (1983) 471-486, was given the Automatica Prize Paper Award, and the paper "Adaptive Feedback Control, *Proc. IEEE* **75** (1987) 185-217, was awarded with the Donald G. Fink Prize Paper award from IEEE. He has supervised 44 Ph.D. students and numerous M.Sc. students.

Åström is a fellow of the IEEE, a member of the Royal Swedish Academy of Sciences and the Royal Swedish Academy of Engineering Sciences (IVA) where he has also been a vice president. He is a foreign associate of the US National Academy of Engineering.

Åström has received many awards, among them the Rufus Oldenburger Medal from ASME in 1985, the Quazza medal from IFAC in 1987, the IEEE Control Systems Science and Engineering Award in 1990, and the IEEE Medal of Honor "for fundamental contributions to theory and applications of adaptive control technology" in 1993.

He is married to Bia Åström and they have two children, Karin and Kalle. His personal interests

include sailing and skiing.

Curriculum Vitae – Tore Hägglund

Tore Hägglund was born in Lund, Sweden, August 29, 1954. He is Professor at the Department of Automatic Control, Lund Institute of Technology (LTH), Lund, Sweden.

Address

Department of Automatic Control, Lund Institute of Technology, Box 118, S-221 00 Lund, Sweden. Phone +46–46–222 87 98, fax +46–46–13 81 18, email `tore@control.lth.se`.

Degrees

- Master of Science in Engineering Physics at Lund Institute of Technology, 1978
- PhD in Automatic Control at Lund Institute of Technology, 1984
- Honorary Docent in Automatic Control at Lund Institute of Technology, 1989

Employment

- Professor in Automatic Control, Lund Institute of Technology, 1999 –
- Associate Professor in Automatic Control, Lund Institute of Technology, 1989–1999
- Research Engineer, SattControl Instruments AB (now ABB), 1985–1989
- Research assistant in Automatic Control, Lund Institute of Technology, 1978–1985

Tore Hägglunds' PhD thesis dealt with adaptive control and fault detection. During PhD studies he also developed the relay autotuner for automatic tuning of PID controllers together with professor Karl Johan Åström. The method got patented and is now implemented in many industrial products.

In 1985 he joined the company SattControl Instruments (now ABB) to implement automatic tuning methods and to develop new industrial adaptive controllers.

Having completed the work at SattControl Instruments he returned to the Department of Automatic Control in 1989. Since then his main research interests have been process control, adaptive control, supervision, and diagnosis. Some of the research results are: A new dead-time compensating controller, methods for supervision of PID controllers and automatic detection of friction in valves, and a method to compensate for static friction in control valves. All these methods have resulted in industrial products.

Tore Hägglund has written several books. Together with Professor K. J. Åström he has written *Automatic Tuning of PID Controllers*, *PID Controllers, Theory, Design, and Tuning*, and *Advanced PID Control*, books that summarize their experience in PID and process control. The book *Praktisk Processreglering* (in Swedish) covers basic control technology, and is aimed primarily for industrial instrument engineers. It is translated to English: *Process Control in Practice*.