

Juha Olavi Haataja



Address: CSC – IT Center for Science, Ltd.
(CSC – Tieteen tietotekniikan keskus Oy)
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Nationality: Finnish, born in Finland in 1965

Marital status: Married, three children

Languages: Finnish (native), English (excellent), Swedish (good), German (fair)

Profile: Leader of experts in science and information technology. Has advanced the level of computational science in Finland since 1988 by writing, teaching, and by helping researchers personally.

Degrees: 1° Master of Science (Engineering) 1991, Applied Mathematics, Helsinki University of Technology (TKK); title of thesis *Soluautomaattisimulointi* (Cellular automata simulation)

2° Licentiate in technology 1994, Applied Mathematics, TKK; title of thesis *Suurten optimointitehtävien ratkaiseminen* (Solving Large-scale Optimization Problems)

Positions:

2005–	Director, CSC
2000–2009	Columnist, MikroPC Magazine, Finland
1997–2004	Development manager, CSC (several different groups)
1990–1997	Application specialist, Computational methods, CSC
1988–1990	Application specialist, Computer Centre, TKK

Other activities and memberships:

- Steering group of RAKETTI-TUTKI (structural development of IT management in universities and polytechnics; 2010–)
- Steering group for the classification of academic publication channels in Finland (Julkaisufoorumien ohjausryhmä; 2010–)
- Board member of Health CSTI (Strategic Centre for Science, Technology and Innovation; Terveys ja hyvinvointi SHOK; 2009–2010)
- Secretary of the Committee on developing computational science in Finland (appointed by the Ministry of Education, 2006–2007). *Laskennallisen tieteen kehittäminen Suomessa*. Opetusministeriön työryhmämuistioita ja selvityksiä 2007:23.
- Member of the Research.fi project team (appointed by the Ministry of Education for the years 2001–2002). *Research.fi: Tiede- ja teknologiahallinnon tietopohjan kehittämisprojekti 2001–2002*. Opetusministeriön julkaisuja 2003:4.
- Secretary to the Advisory Board on Information Technology in Research and Education (appointed by the Ministry of Education for the years 1998–2000).
- Member of the Finnish Operations Research Society FORS (board member and vice chairman 2003–2005, vice board member 2006–2008)
- Member of ACM, SIAM, Finnish Association of Graduate Engineers TEK, Finnish Association of Non-fiction Writers, Finnish Association of Nature Photographers, and Ursa Astronomical Association (board 2005–2010, vice chairman 2009–2010)

Special skills:

- Leadership, group management, strategic planning, project management.
- Computational science: numerical methods (optimization etc.), programming (Fortran 90/95 etc.), mathematical software (Matlab, Mathematica etc.).
- Lecturing, giving presentations, writing (textbooks, manuals, popular articles etc.).

Selected textbooks and guides (over 30 books in total):

- *Fortran 95/2003*. Juha Haataja, Jussi Rahola and Juha Ruokolainen. CSC, 2007. 339 pages. 4th edition. In Finnish.
- *Optimointitehtävien ratkaiseminen* (Solving Optimization Problems). Juha Haataja. CSC, 2004. 245 pages. 3rd edition. In Finnish.
- *Matemaattiset ohjelmistot* (Mathematical Software). Esa Lammi, Juha Haataja et al. CSC, 2004. 105 pages. 4th edition. In Finnish.
- *Numeeriset menetelmät käytännössä* (Numerical Methods in Practice). Juha Haataja et al. CSC, 2002. 415 pages, 2nd edition. In Finnish.
- *Rinnakkaisohjelmointi MPI:llä* (Parallel Programming Using MPI). Juha Haataja and Kaj Mustikkamäki. CSC, 2001. 97 pages. 2nd edition. In Finnish.
- *GAMS-pikaopas* (Introduction to GAMS). Juha Haataja. CSC, 2001. 46 pages. 4th edition. In Finnish.
- *Cray T3E User's Guide*. Eds. Juha Haataja and Ville Savolainen. CSC, 2001. 4th edition. 117 pages.
- *Numeeriset menetelmät* (Numerical Methods). Juha Haataja, Juhani Käpyaho and Jussi Rahola. CSC, 1993. 236 pages. In Finnish.
- *Vektorilaskenta — IBM 3090 Vector Facility* (Vector Processing). Juha Haataja. Computing Centre, TKK, 1990. 71 pages. 2nd edition. In Finnish.
- *APL2-ohjelmointikielen käyttö* (Using the APL2 Programming Language). Juha Haataja, Computing Centre, TKK, 1989. 127 pages. In Finnish.

Reports and proceedings:

- *Numerical Analysis and Scientific Computing for Partial Differential Equations and Their Challenging Applications*. J. Haataja, R. Stenberg, J. Périaux, P. Raback and P. Neittaanmäki (eds). CIMNE, Barcelona (Spain), 2007.
- *CSC Report on Scientific Computing 2001–2003*. Eds. Kotila, Haataja, Forsström, Ignatius, Jukka, Laine, Runeberg, Råback, and Savolainen. CSC, 2003. 249 pages.
- *Applied Parallel Computing — Advanced Scientific Computing*. 6th International Conference, PARA 2002. Proceedings. Eds. Fagerholm, Haataja, Järvinen, Lyly, Råback, and Savolainen. LNCS 2367. Springer, 2002.
- *Sillanrakennuksesta lääkeainesuunnitteluun — Matemaattinen mallintaminen suomalaisissa yliopistoissa* (Mathematical modeling in Finnish universities). Juha Haataja, Jari Järvinen and Yrjö Leino. CSC, 2000.
- *CSC Report on Scientific Computing 1997–1998*. Ed. Juha Haataja. CSC, 1999. 230 pages.
- *Workshop on Cellular Automata, Proceedings*. Ed. Juha Haataja. CSC, 1991.

Books for the general audience:

- *Laskennallinen tuotekehitys: suunnittelun uusi ulottuvuus* (Computational product development). Ed. Juha Haataja, Jari Järvinen, Jari Koponen and Peter Råback. CSC, 2000. 116 pages. In Finnish.
- *Alkuräjähdyksestä kännykkään — näkökulmia laskennalliseen tieteseen* (From the big bang to mobile phones). Ed. Juha Haataja. CSC, 1998. 119 pages. In Finnish.

Lectures, courses, and workshops:

1990–	Dozens of guest lectures in events organized by universities, research institutes, and private enterprises
2007	A half-day introduction to optimization (TKK, Postgraduate seminar on Simulation and optimisation of building energy systems)
1995–2007	Nine two-day courses on programming with Fortran 90/95 (CSC)
1996–2004	Six 1–2 day courses on parallel programming with MPI (CSC)
2002	PARA'02, a four-day Conference on Applied Parallel Computing (CSC)
2001	A two-day workshop on modeling and optimization (TKK, Nordic Energy Systems Integration Workshop)
2000	A five-day intensive course on program development in chemistry (CSC)
2000	A one-semester course on programming mathematical algorithms (TKK, Systems Analysis Laboratory)
1999	A one-semester licentiate seminar on scientific computing (TKK, Laboratory of Information Processing Science)
1998	A five-day intensive course on computational science (CSC, organized for the ComBi graduate school)
1990–1997	Several 1–2 day courses on using mathematical software, symbolic computation, vectorization, and optimization (CSC)
1992–1993	Three two-day intensive courses on numerical methods (CSC, University of Jyväskylä, and Summer school in computational physics)
1991	Two-day workshop on Cellular Automata (CSC)
1988–1990	Several 2–3 day courses on vectorization (TKK)

Scientific articles:

- *Industrial Applications: Challenges in Modeling and Computing*. Jari Järvinen, Juha Haataja and Jari Hämäläinen. In the book “Applied Parallel Computing: New paradigms for HPC in industry and academia”. Lecture Notes in Computer Science, pages 1–16. Springer-Verlag, 2000.
- *Using Genetic Algorithms for Optimization: Technology Transfer in Action*. Juha Haataja. In the book “Evolutionary Algorithms in Engineering and Computer Science”, pages 3–22. Wiley, 1999. Eds. K. Miettinen, M. M. Mäkelä, P. Neittaanmäki and J. Periaux.
- *A comparison of software for global optimization*. Juha Haataja. Proceedings of the First Nordic Workshop on Genetic Algorithms and Their Applications, pages 189–204. University of Vaasa, 1995. Ed. Jarmo T. Alander.
- *A set of symbolic-numeric tools for handling some problems on Dirichlet polygons*. Juha Haataja. Proceedings of the Workshop on Symbolic and Numeric Computing, pages 115–126. Rolf Nevanlinna Institute, Research Reports B10, 1994. Eds. Heikki Apiola, Marko Laine and Esko Valkeila.

Popular articles, essays, columns, and book reviews:

- Between 1990–2009 about 730 articles, essays, columns, and book reviews have appeared in magazines such as MikroPC, Tietoyhteys, Yliopisto, Tähdet & Avaruus, Arkhimedes, Dimensio, Solmu, CSC News, and The Mathematical Intelligencer.