Curriculum Vitae

Pekka Orponen

6 June 2022

Position

Professor, Department of Computer Science, Aalto University School of Science

Education

April, 1986 Ph.D. in Computer Science, University of Helsinki

April, 1983 M.Sc. in Computer Science, University of Helsinki

May, 1978 Secondary school matriculation, Suomalainen Yhteiskoulu, Helsinki

Professional appointments

Sep 2001 – present: Professor (Theoretical Computer Science/tietojenkäsittelyteoria), Department of Computer Science, Aalto University School of Science (until Dec 2009 Helsinki University of Technology TKK)

Aug 1996 – Aug 2001: Professor (Applied Mathematics and Computing/sovellettu matematiikka ja tietojenkäsittely), Department of Mathematics, University of Jyväskylä

Aug 1995 – July 1996: Professor (Intelligent Systems/älykkäät järjestelmät), Department of Computer Science, University of Helsinki

June 1994 – July 1995: Associate Professor (apulaisprofessori), Department of Computer Science, University of Helsinki

Aug 1990 – May 1994: Assistant Professor (yliassistentti), Department of Computer Science, University of Helsinki

Aug 1987 – July 1990: Senior Research Fellow (vanhempi tutkija), Academy of Finland

Oct 1984 – Aug 1986: Research Associate (tutkimusapulainen), Academy of Finland

Recent research funding

2017–2021: 7 py (personyears) for project "Algorithmic Designs for Biomolecular Nanostructures" from the Academy of Finland.

2008–2013: 5 py in support of Erik Aurell's (Professor and Chair of Biological Physics, KTH, Stockholm) visit to TKK as a Finland Distinguished Professor, from the Academy of Finland.

2011: Senior scientist appropriation for project "Modern Algorithmics and Its Interdisciplinary Applications" from the Academy of Finland.

2009–2011: 3 py for project "Online Optimisation and Production Planning" from the Academy of Finland. (Joint application with Esko Niemi, TKK Dept. of Engineering Design and Production.)

2009–2011: 5 py for project "ICT SHOK Programme Future Internet WP6: Data Security" from Tekes – National Technology Agency of Finland.

Scientific and professional activities

Recent editorial board memberships:

> **Theoretical Computer Science C: Natural Computation** 2003 – present
>
> **IEEE Transactions on Neural Networks** 1999 – 2002

Recent program committee memberships: *28th International Conference on DNA Computing and Molecular Programming (DNA28, Albuquerque NM, Aug 2022), 19th International Conference on Unconventional Computation and Natural Computation (UCNC 2021, Espoo, Oct 2021, **Local Organisation Chair and PC Co-Chair**), 27th International Conference on DNA Computing and Molecular Programming (DNA27, Oxford/Online, Sep 2021), 26th International Conference on DNA Computing and Molecular Programming (DNA26, Oxford/Online, Sep 2020), 14th Plenary Meeting of the Research Data Alliance (Espoo, Finland, Oct 2019, **PC Co-Chair**), CODATA-Helsinki Workshop on FAIR RDM in Institutions (Helsinki, Oct 2019), 25th International Conference on DNA Computing and Molecular Programming (DNA25, Seattle WA, Aug 2019), 18th International Conference on Unconventional Computation and Natural Computation (UCNC 2019, Tokyo, June 2019), Nucleic Acid Nanotechnology 2019 (NANTECH 2019, Espoo, Finland, May 2019, **Local Organisation and PC Co-Chair**), 14th European Computer Science Summit (ECSS 2018, Gothenburg, Sweden, Oct 2018; **PC Co-Chair**), 24th International Conference on DNA Computing and Molecular Programming (DNA24, Jinan, China, Oct 2018), 17th International Conference on Unconventional Computation and Natural Computation (UCNC 2018, Paris, June 2018), 44th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2018, Krems a.d. Donau, Austria, Jan 2018), 23rd International Conference on DNA Computing and Molecular Programming (DNA23, Austin TX, Sep 2017), 16th International Conference on Unconventional Computation and Natural Computation (UCNC 2017, Fayetteville AR, June 2017)*

Membership in scientific societies: *American Mathematical Society, Association for Computing Machinery, European Association for Theoretical Computer Science, European Mathematical Society, Finnish Artificial Intelligence Society, Finnish Mathematical Society, Finnish Society for Computer Science (board member 1988, 1991–1993), IEEE Computer and Information Theory Societies, International Neural Network Society, Society for Industrial and Applied Mathematics*

Extended research visits:
May–July 2017: Physik-Department, TU München

Apr 2017: Institut für Informatik, Univ. Paderborn
Mar 2017: Dept. of Mathematical and Computing Sciences, Tokyo Inst. of Technology
Jan – Feb 2017: Dept. of Computer and Network Engineering, Univ. of Electro-Communications, Tokyo
Oct – Dec 2016: Dept. Informationstechnologie und Elektrotechnik, ETH Zürich
Mar & Oct 2011: Chinese Academy of Sciences, Beijing
Feb 2011: Dept. de Llenguatges i Sistemes Informàtics, Univ. Politècnica de Catalunya
Mar 2004 – Apr 2004: The Santa Fe Institute
Mar 1997 – Apr 1997: Dept. of Computer Science, Boston University
Jan 1997 – June 1997: Dept. of Computer Science, Univ. of Edinburgh
Sep 1994 – July 1995: Institute for Theoretical Computer Science, TU Graz
Jan 1989 – June 1990: Dept. of Computer Science, Univ. of Toronto

Graduated doctoral students:

Abdulmelik Mohammed, "Algorithmic Design of Biomolecular Nanostructures", Nov 2018
Lauri Ahlroth, "Online Algorithms in Resource Management and Constraint Satisfaction", Dec 2012
André Schumacher, "Distributed Optimization Algorithms for Multihop Wireless Networks", Dec 2010
Satu Elisa Schaeffer, "Algorithms for Nonuniform Networks", Apr 2006
Antti Autere, "Extensions and applications of the A^* Algorithm", Dec 2005
Petteri Kaski, "Algorithms for Classification of Combinatorial Objects" (co-supervised with Prof. Patric Östergård), June 2005
Harri Haanpää, "Constructing Certain Combinatorial Structures by Computational Methods", (co-supervised with Prof. Patric Östergård), Feb 2004
Sam Sandqvist, "Aspects of Modelling and Simulation of Genetic Algorithms: A Formal Approach" (co-supervised with Prof. Emer. Leo Ojala), Nov 2002
Petri Myllymäki, "Mapping Bayesian Networks to Stochastic Neural Networks: A Foundation for Hybrid Bayesian–Neural Systems" (co-supervised with Prof. Esko Ukkonen), Dec 1995
Patrik Floréen, "Computational Complexity Problems in Neural Associative Memories" (co-supervised with Prof. Esko Ukkonen), Nov 1992

Recent administrative positions and positions of trust:

Informatics Europe (Association of European Computer Science Departments). Board Member 2018 – present

National Publication Forum Evaluation Task Force (JUFO). Computer Science Panel, Member 2018 – present

Council of Finnish Academies National Committee on Data. Chairman June 2015 – 2022, Member 2022 – present

Finnish Academy of Science and Letters. (Suomalainen Tiedeakatemia). Member 2013 – present

Finnish Cultural Foundation. Association Board Member Oct 2003 – Sep 2011, Supervisory Board Member Sep 2012 – Aug 2022

National Open Data Expert Group. Chairman Nov 2018 – May 2020

Aalto University Science Institute. Director Jan 2015 – Aug 2016

Department of Computer Science, Aalto University School of Science. Vice-Head of Department (Research), Jan 2015 – May 2016, Head of Department June – July 2016

Department of Information and Computer Science, Aalto University School of Science (until Dec 2009 Helsinki University of Technology TKK). Head of Department Jan 2008 – Dec 2014 (on leave 2011).

Division of Computer Science and Engineering, Helsinki University of Technology TKK. Chairman of Curriculum Committee Aug 2002 – July 2003, Aug 2004 – Dec 2007

Laboratory for Theoretical Computer Science, Helsinki University of Technology TKK. Head of Laboratory Aug 2005 – July 2006

Awards and decorations

Knight First Class, Order of the White Rose of Finland, 2021