

Curriculum Vitae

Name: Pauline C Haddow
Date of Birth: 04.02.64
Nationality: Scottish
Languages: English, Norwegian
Marital Status married
Children 3 (born 2000, 2002, 2005)
Current Position Professor Qualifying Scholarship (Jun 2006- May 2009), IDI, NTNU
Position: Associate Professor 1998+ (Permission from June 2006- May 2009), IDI, NTNU
Previous Position Assistant Professor 1997-1998, IDI, NTNU

Relevant Qualifications:

1998: PhD from NTNU: A Framework for Modelling Communication Hardware in Multicomputers
1991: First Class Honours Degree in Computer Science and Electronics, Glasgow University, Scotland.

Board Memberships

IEEE Working Group on Evolvable Hardware
ICES Conferences Steering Committee
NTNU leader group in Medicine Technology (2001-2006)
NTNU Functional Genome research (FUGE) committee (2002 – present)
IME Faculty Board, NTNU (2002-05)
IDI Board, NTNU (2001-20003) (2005- present, vara)
IDI Research Committee, NTNU (2002 - present)

Supervision

4 PhD students completed
3 PhD students in process
30 Masters students

External Examinations

PhD thesis, Anna University, India, 2006
Masters thesis, University of York, UK, 2006

External Funding Evaluations

ESPRC (British) funding evaluator 2006
Czech Funding Evaluator 2005

Conference Organisation

Congress on Evolutionary Computation CEC09, current bid together with Prof Andy Tyrrell, York UK, to be held in Trondheim, co-program chair and co-local chair
Special Session at Congress in Evolutionary Computation CEC08, proposed special session on Artificial Development together with Kenneth Stanley, University of Central Florida, USA
International Conference on Evolvable Systems, from Biology to Hardware, ICES08, to be held in Prague, program co-chair
Workshop on Evolved and Adaptive hardware, IEEE Symposium on Computational Intelligence 2007, to be held in Hawaii, member of organising committee
International Conference on Evolvable Systems, from Biology to Hardware, ICES03, held in Trondheim, program co-chair
Annual Artificial Development meetings, (2001-present) , joint initiative with University of York UK, held in Trøndelag, Norway, invited guests from other universities.

Relevant National and International Funding Efforts

Current:

2006 NFR, Norway, Young Outstanding Researcher Application ~10M Nkr ,
2006 Helse Midt-Norge/NTNU, 1 PhD funding

2006 Helse Midt-Norge/NTNU, 1 PhD funding

Successful:

2006 NTNU FUGE/Bio-nano/systemsbiology: 1 PhD funding (Dec 2006-nov 2009)

2006 IME, NTNU 1 PhD funding (Oct 2006-Sept 2009)

2004 NTNU bioinformatic, 1 Post.doc funding (Jun 2004-May 2006)

2003 IME, NTNU 1 PhD funding (June 2004-may 2007)

2000 NFR project (Nov 2000 to Oct 2003) budget NOK 1.24M, leader: Pauline Haddow, "Applying Artificial Evolution to Reconfigurable Hardware to achieve Modelling of Signal Transduction"

EU:EOI:

2002 Efficient Hardware/Software Design Models and techniques for Embedded Systems, participant (leader, Sekanini, Czech Republic)

2002 Embedded Reconfigurable Systems for Ambient Intelligence, participant (leader, Jim Tørresen, UIO)

ESPRC initiative :

2003-2004: SEEDS, ESPRC(British) funded initiative to create strong research proposals within novel computation, international collaborator

Reviewing

Various international journals and conferences

Pauline Haddow Publications

Books, Book Chapters and Journals

Piet van Remortel, Pauline Haddow, Tom Lenaerts and Bernard Manderick, "Modular Interactions between Developmental Genes and the impact of Mutations", submitted to the journal of Genetic Programming and Evolvable Hardware.

Morten Hartmann and Pauline Catriona Haddow and Per Kristian Lehre, "The Genotypic Complexity of Evolved Fault-tolerant and Noise-robust Circuits" to appear in BioSystems Journal., 2006

Per Kristian Lehre and Pauline Catriona Haddow, "Phenotypic Complexity and Local Variations in Neutral Degree" to appear in BioSystems Journal., 2006

Gunnar Tuftte and Pauline Catriona Haddow, "Towards Development on a Silicon-based Cellular Computing Machine", Natural Computing, journal 2005 4(4):387-416

Morten Hartmann and Pauline Catriona Haddow, "Evolution of Fault Tolerant and Noise Robust Designs" IEE journal of Computers and Digital Techniques, Volume 151, Issue 04, p. 287-294, July 2004

Tyrrell, A. M. and Haddow, P. C. and Torresen, J. "Proceedings of 5th International Conference on Evolvable Systems: From Biology to Hardware, ICES2003" 2003, Springer-Verlag

Pauline Catriona Haddow and Gunnar Tuftte and Piet Remortel, "Evolvable Hardware: Pumping Life into Dead Silicon", On Growth, Form and Computers, Chapter 22: 405--423, Elsevier Limited, Oxford, England

International and National Refereed Conferences

Pauline C Haddow, "Bridging the Knowledge Gap between Conventional and Non-conventional Fault Tolerant Design" Workshop on Evolvable and Adaptive Hardware, IEEE Symposium Series on Computational Intelligence 2007, submitted

Pauline C Haddow, Morten Hartmann and Asbjørn Djupdal, "Evaluating Reliability in Traditional and Evolved Fault tolerant circuits", submitted to IEEE workshop on Reliable and Adaptive Hardware (RAW07)

Per Kristian Lehre and Pauline Catriona Haddow, "Accessibility and Runtime between Convex Neutral Networks" to appear in the 6th international Conference on Simulated Evolution and Learning, SEAL 2006

Pauline C Haddow, Morten Hartmann and Asbjørn Djupdal, "Classical versus Evolved Fault Tolerance: Comparing Metrics and Performance" to appear in the 2006 MAPLD international conference

Asbjørn Djupdal and Pauline Haddow, "Improving FPGA Yield with Defect Tolerance", to appear in the 2006 MAPLD international conference.

Per Kristian Lehre and Pauline Catriona Haddow, "Accessibility between Neutral Networks in Indirect Genotype-Phenotype Mappings" in proceedings of the IEEE Congress on Evolutionary Computation, IEEE Computer Society Press 2005. ISBN 0-7803-9363-5. s. 419-426

Morten Hartmann and Pauline Catriona Haddow and Per Kristian Lehre, "Evolved Digital Circuits and Genome Complexity", in Proceedings of The 2005 NASA/DoD Conference on Evolvable Hardware, 2005, 2005:79-86

Gunnar Tufte and Pauline Catriona Haddow, "Biologically-Inspired: A Rule-Based Self-Reconfiguration of a Virtex Chip", in Proc. of International Conference on Computational Science 2004, 2004 *LNCS series* 2004;3(3038):1249-1256

Per Kristian Lehre and Pauline Catriona Haddow, "Developmental Mappings and Phenotypic Complexity" Proceedings of the 2003 IEEE Congress on Evolutionary Computation, 2003

Gunnar Tufte and Pauline C. Haddow. "Identification of Functionality during Development on a Virtual Sblock FPGA.", to appear in Congress on Evolutionary Computation (CEC2003). IEEE.

Per Kristian and Pauline Haddow, Development Mappings and Phenotypic Complexity, to appear in Congress on Evolutionary Computation (CEC2003), IEEE.

Pauline Haddow and Morten Hartmann. Achieving Complexity and Reliability on Unreliable Platforms, in the Norwegian Informatics Conference NIK2002.

Morten Hartmann, Pauline C. Haddow and Frode Eskelund. Evolving Robust Digital Designs, in the 2002 NASA/DoD Conference on Evolvable Hardware.

Morten Hartmann, Frode Eskelund, Pauline C. Haddow and Julian F. Miller. Evolving Fault Tolerance on an Unreliable Technology Platform, in The Genetic and Evolutionary Computation Conference (GECCO-2002).

Pauline C Haddow, Gunnar Tufte and Piet van Remortel. Shrinking the Genotype: L-systems for EHW, in Evolvable Systems: From Biology to Hardware, 4th International Conference, ICES 2001, pages 128-139, Springer-Verlag 2001.

Pauline C. Haddow and Gunnar Tufte. Bridging the Genotype-Phenotype Mapping for Digital FPGAs, in The Third NASA/DoD Workshop on Evolvable Hardware, EH 2001, pages 109-115. IEEE Computer Society Press, 2001.

Pauline C Haddow and Piet van Remortel. From Here to There: Future Robust EHW Technologies for Large Digital Designs, in The Third NASA/DoD Workshop on Evolvable Hardware, EH 2001, pages 232-239, IEEE Computer Society Press, 2001.

Pauline C. Haddow and Gunnar Tufte. An Evolvable Hardware FPGA for Adaptive Hardware, in Congress on Evolutionary Computation 2000 (CEC00), pages 553-560. IEEE Press, 2000.

Gunnar Tufte and Pauline C. Haddow. Evolving an Adaptive Digital Filter, in The Second NASA/DoD Workshop on Evolvable Hardware, EH 2000, pages 143-150. IEEE Computer Society Press, 2000.

Pauline C. Haddow and Gunnar Tufte. Evolving a Robot Controller in Hardware, in Norsk Informatikkonferanse 1999 (NIK'99), pages 141-150. NIK-stiftelsen and Tapir forlag, 1999.

Gunnar Tufte, Pauline C. Haddow. Prototyping a GA Pipeline for Complete Hardware Evolution, in The First NASA/DoD Workshop on Evolvable Hardware, EH 1999, pages 18-25. IEEE Computer Society Press, 1999.

Pauline C. Haddow, A Prototype Framework for Modelling Communication Hardware in Multicomputers, in Conference on Parallel and Distributed Systems 1999, PDPTA'99.

Pauline C. Haddow, A Framework for Modelling Communication Hardware in Multipcomputers, PhD thesis, Department of Computer Science and Informatics, Rapport 1998:38.

Pauline C. Haddow and Lasse Natvig, A case study in multilevel architecture modelling using HDLs, in 4th Asia-Pacific Conference on Hardware Description Languages 1998, pages 24-31.

Lasse Natvig and Pauline C. Haddow, A multilevel simulation study linking parallel applications to executable and realisable hardware models, in Norsk informatikk konferanse 1997 (NIK97), pages 303-314.

Pauline C. Haddow, A generalisation of router chip design, in Proceedings of the Fifth Euromicro Workshop on Parallel and Distributed Processing 1997, pages 307-313.

Invited Talks

Pauline C Haddow, "Complex Reliable Adaptive Bio-inspired Reconfigurable Hardware", FPGA forum, Trondheim, 2006

Pauline C Haddow, "Development: Achieving Complexity in an Artificial Environment", EU NEURO-it workshop, Antwerp, Belgium, 2006

Pauline Catriona Haddow, "*Development and Evolvable Hardware : Achieving Complexity in an Artificial Environment*" CODESAR Workshop, GECC0 2006

Pauline C Haddow, "*Evolvable Hardware: Bioinspired Design Techniques*", DAK Forum, Trondheim, 2001