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# List of Publications:

## Lars Michael Kristensen

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### SUMMARY

Textbooks	1
Proceedings	1
Book chapters	4
Peer reviewed journal papers	12
Peer reviewed conference papers	34
Peer reviewed workshop papers	26

### TEXTBOOKS

K. Jensen and L.M. Kristensen. *Coloured Petri Nets – Modelling and Validation of Concurrent Systems*. Springer, July 2009.

### PROCEEDINGS

L.M. Kristensen and J. Billington (eds). *Proceedings of Workshop on Formal Methods Applied to Defence Systems*. Volume 12 of Conferences in Research and Practice of Information Technology. Australian Computer Society, 2002. Satellite Workshop of the 23rd International Conference on Application and Theory of Petri Nets, Adelaide, 2002.

### BOOK CHAPTERS

**B4** L.M. Kristensen and K. Jensen. Specification and Validation of an Edge Router Discovery Protocol for Mobile Ad-hoc Networks. In Proc. of Integration of Software Specification Techniques for Applications in Engineering. Vol. 3147 of Lecture Notes in Computer Science, pp. 248-269, Springer-Verlag, 2004.

**B3** L.M. Kristensen, J.B. Jørgensen and K. Jensen. Application of Coloured Petri Nets in System Development. Lectures on Concurrency and Petri Nets – Advanced in Petri Nets. Proc. of 4th Advanced Course on Petri Nets. Vol. 3098 of Lecture Notes in Computer Science, pp. 626-685. Springer-Verlag, 2004.

**B2** S. Christensen and L.M. Kristensen. State Space Analysis of Hierarchical Coloured Petri Nets. In W. Aalst, J. Colom, F. Kordon, G. Kotsis, and D. Moldt (eds.): *Petri Net Approaches for Modelling and Validation*, Vol. 1 of LINCOM Studies in Computer Science, Chapter 1, pp. 1-16. Lincoln Europa, 2003.

**B1** J.B. Jørgensen and L.M. Kristensen. Verification of Coloured Petri Nets Using State Spaces with Equivalence Classes. In W. Aalst, J. Colom, F. Kordon, G. Kotsis, and D. Moldt (eds): *Petri*

## PEER REVIEWED PUBLICATIONS

### JOURNAL PAPERS

- J12** P. Fleischer and L.M. Kristensen. Modelling and Validation of Secure Connection Establishment in a Generic Access Network Scenario. In Vol. 94, No. 3-4 of *Fundamenta Informaticae*, pp. 361-386, IOS Press, 2009.
- J11** S. Evangelista, M. Westergaard, and L.M. Kristensen The ComBack Method Revisited: Caching Strategies and Extension with Delayed Duplicate Detection. In *Transactions on Petri Nets and Other Models of Concurrency* Vol. 3, pp. 189-215. Subseries of LNCS, Springer, 2009.
- J10** L.M. Kristensen and K. Jensen. Teaching Modelling and Validation of Concurrent Systems using Coloured Petri Nets. In *Transactions on Petri Nets and Other Models of Concurrency*, Vol. 1, pp. 19-34. Subseries of LNCS, Springer, 2008.
- J9** L.M. Kristensen, P. Mechlenborg, L. Zhang, B. Mitchell, and G.E. Gallash. Model-based Development of a Course of Action Scheduling Tool. In *International Journal on Software Tools for Technology Transfer (STTT)*. Springer-Verlag, 2007.
- J8** K. Jensen, L.M. Kristensen, and L. Wells. Coloured Petri Nets and CPN Tools for Modelling and Validation of Concurrent Systems. In *International Journal on Software Tools for Technology Transfer (STTT)*, Vol 9, No. 3-4, pp. 213-254. Springer-Verlag, 2007.
- J7** B. Mitchell, L.M. Kristensen, and L. Zhang. Formal Specification and State Space Analysis of an Operational Planning Process. In *International Journal on Software Tools for Technology Transfer (STTT)*, Vol. 9, No. 3-4, pp. 255-267. Springer-Verlag, 2007.
- J6** G. E. Gallasch, J. Billington, S. Vanit-Anunchai, and L.M. Kristensen. Checking Safety Properties On-the-fly with the Sweep-Line Method. In *International Journal on Software Tools for Technology Transfer (STTT)* Vol 9, No. 3-4, pp. 371-392. Springer-Verlag, 2007.
- J5** L.M. Kristensen, K. Schmidt, and A. Valmari. Question-Guided Stubborn Set Methods for State Properties. In *International Journal on Formal Methods in System Design*. Volume 29, Issue 3, pp. 215-251. Kluwer Academic Publishers, November 2006.
- J4** L.M. Kristensen and S. Christensen. Implementing Coloured Petri Nets using a Functional Programming Language. In *Journal on Higher-Order and Symbolic Computation* 17(3), pp. 207-243. Kluwer Academic Publishers, September 2004.
- J3** J. Billington, G. Gallasch, L.M. Kristensen, and T. Mailund. Exploiting Equivalence Reduction and the Sweep-Line Method for Detecting Terminal States. In *IEEE Transactions on Systems, Man, and Cybernetics, Part A: Systems and Humans*. Vol. 34, No. 1, pp. 23-38, January 2004. IEEE Computer Society, 2003
- J2** J.B. Jørgensen and L.M. Kristensen. Computer Aided Verification of Lamport's Fast Mutual Exclusion Algorithm Using Coloured Petri Nets and Occurrence Graphs with Symmetries. *IEEE Transactions on Parallel and Distributed Systems*, Vol. 10, No. 7, pp. 714-732, 1999.
- J1** L.M. Kristensen, S. Christensen, and K. Jensen. The Practitioner's Guide to Coloured Petri Nets. *International Journal on Software Tools for Technology Transfer (STTT)*, Vol. 2, No. 2, pp. 98-132, Springer-Verlag, 1998.

## CONFERENCE PAPERS

- C34** M. Westergaard, L.M. Kristensen, and M. Kuusela. Towards Cosimulating SystemC and Coloured Petri Net Models for SoC Functional and Performance Evaluation. In Proc. of 21st European Modeling and Simulation Symposium. September 2009.
- C33** S. Evangelista and L.M. Kristensen. Dynamic State Space Partitioning for External Memory Model Checking. In Proc. Formal Methods for Industrial Critical Systems, Vol. 5825 of Springer Lectures Notes in Computer Science, pp. 70-85. Springer-Verlag, 2009.
- C32** M. Westergaard, S. Evangelista, and L.M. Kristensen. ASAP: An Extensible Platform for State Space Analysis. In Proc. of 30th International Conference on Application and Theory of Petri Nets and Other Models of Concurrency, Vol. 5606 of Springer Lectures Notes in Computer Science, pp. 303-312. Springer-Verlag, 2009.
- C31** M. Westergaard and L.M. Kristensen. The Access/CPN Framework: A Tool for Interacting with the CPN Tools Simulator. In Proc. of 30th International Conference on Application and Theory of Petri Nets and Other Models of Concurrency, Vol. 5606 of Springer Lectures Notes in Computer Science, pp. 313-322. Springer-Verlag, 2009.
- C30** K.L. Espensen, M.K. Kjeldsen, and L. M. Kristensen. Modelling and Initial Validation of the DYMO Routing Protocol for Mobile Ad-hoc Networks. In Proc. of 29th International Conference on Application and Theory of Petri Nets and Other Models of Concurrency, Vol. 5062 of Springer Lectures Notes in Computer Science, pp. 152-170. Springer-Verlag, 2008.
- C29** P. Fleischer and L.M. Kristensen. Specification and Validation of Secure Connection Establishment in a Generic Access Network Scenario. In Proc. of 29th International Conference on Application and Theory of Petri Nets and Other Models of Concurrency, Vol. 5062 of Springer Lectures Notes in Computer Science, pp. 171-190. Springer-Verlag, 2008.
- C28** M. Westergaard, L.M. Kristensen, G. Brodal, and L. Arge. The ComBack Method - Extending Hash Compaction with Backtracking. In Proc. of 28th International Conference on Application and Theory of Petri Nets and Other Models of Concurrency, Vol. 4546 of Lectures Notes in Computer Science, pp. 445-464. Springer-Verlag, 2007.
- C27** J. Brøndsted and L.M. Kristensen. Specification and Performance Evaluation of Two Zone Dissemination Protocols for Vehicular Ad-hoc Networks. In Proc. of 39th Annual Simulation Symposium, pp. 68-79. IEEE Computer Society, 2006.
- C26** L.M. Kristensen, M. Westergaard, and P.C. Nørgaard. Model-based Prototyping of an Interoperability Protocol for Mobile Ad-hoc Networks. In Proc. of Fifth International Conference on Integrated Formal Methods (IFM'05). Vol. 3771 of Lecture Notes in Computer Science, pp. 266-286. Springer-Verlag, 2005.
- C25** C.A. Lakos and L.M. Kristensen. State Space Exploration of Object-Based Systems using Equivalence Reduction and the Sweep-line Method. In Proc. of Third International Symposium on Automated Technology for Verification and Analysis (ATVA'05). Vol. 3707 of Lecture Notes in Computer Science, pp. 187-201. Springer-Verlag, 2005.
- C24** J. Brøndsted, K.M. Hansen, and L.M. Kristensen. An Infrastructure for a Traffic Warning System. In Proc. of IEEE International Conference on Pervasive Services (ICPS), pp. 136-145. IEEE Computer Society, 2005.
- C23** L. Zhang, L.M. Kristensen, B. Mitchell, C. Janczura, G. Gallasch, and P. Mechlenborg. COAST – An Operational Planning Tool for Course of Action Development and Analysis. In Proc. of 9th International Command and Control Research and Technology Symposium (ICCRTS), 2004.

- C22** L.M. Kristensen and L. Petrucci. An Approach to Distributed State Space Exploration for Coloured Petri Nets. In Proc. of 25th International Conference on Application and Theory of Petri Nets. Vol. 3099 of Lecture Notes in Computer Science, pp. 474-483, Springer-Verlag, 2004.
- C21** L.M. Kristensen and T. Mailund. Efficient Path Finding with the Sweep-Line Method using External Storage. In Proc. of International Conference on Formal Engineering Methods (ICFEM'03). Vol. 2885 of Lecture Notes in Computer Science, pp. 319-337. Springer-Verlag, 2003.
- C20** L. Petrucci, J. Billington, L.M. Kristensen, and Z.H. Qureshi. Developing a Formal Specification for the Mission Systems of a Maritime Surveillance Aircraft. In Proc. of Third International Conference on Application of Concurrency to System Design (ACSD'03), pp. 92-101. IEEE Computer Society, 2003.
- C19** L.M. Kristensen and T. Mailund. A Compositional Sweep-Line State Space Exploration Method. In Proc. of IFIP TC WG6.1 Joint International Conference on Formal Techniques for Networked and Distributed Systems (FORTE'2002). Vol. 2529 of Lecture Notes in Computer Science, pp. 327-343. Springer-Verlag, 2002.
- C18** L.M. Kristensen, J. Billington, L. Petrucci, Z.H. Qureshi, and R. Kiefer. Formal Specification and Analysis of Airborne Mission Systems (DASC'02). In Proc. of 21st AIAA/IEEE Digital Avionics Systems Conference, Vol. 1, pp. 4.D.4-1-4.D.4-13, 2002.
- C17** C. Ouyang, L.M. Kristensen, and J. Billington. A Formal and Executable Specification of the Internet Open Trading Protocol. In Proc. of the 3rd International Conference on Electronic Commerce and Web Technologies. Vol. 2455 of Lecture Notes in Computer Science, pp.377-387, Springer-Verlag, 2002.
- C16** L.M. Kristensen and T. Mailund. A Generalised Sweep-Line Method for Safety Properties. In Proc. of 11th International Symposium of Formal Methods Europe (FME'2002). Vol. 2391 of Lecture Notes in Computer Science, pp. 549-567. Springer-Verlag, 2002.
- C15** S. Gordon, L.M. Kristensen, and J. Billington. Verification of a Revised WAP Wireless Transaction Protocol. In Proc. of the 23rd International Conference on Application and Theory of Petri Nets (ICATPN'2002). Vol. 2360 of Lecture Notes in Computer Science, pp. 182-202. Springer-Verlag, 2002.
- C14** C. Ouyang, L.M. Kristensen, and J. Billington. A Formal Service Specification for the Internet Open Trading Protocol. In Proc. of the 23rd International Conference on Application and Theory of Petri Nets (ICATPN'2002). Vol. 2360 of Lecture Notes in Computer Science, pp. 352-373. Springer-Verlag, 2002.
- C13** Z. Qureshi, J. Billington, and L.M. Kristensen. Modelling Military Airborne Mission Systems for Functional Analysis. In Proc. of 20th IEEE/AIAA Digital Avionics Systems Conference, 12 pp., CD-ROM. 2001. This paper won the best paper award in the System Engineering and Open Systems track.
- C12** L. Wells, S. Christensen, L.M. Kristensen, and K.H. Mortensen. Simulation Based Performance Analysis of Web Servers. In Proc. of the 9th International Workshop on Petri Nets and Performance Models (PNPM'2001), pp. 59-68. IEEE Computer Society, 2001.
- C11** L. Zhang, L.M. Kristensen, L. Falzon, M. Davies, B. Mitchell, and J. Billington. Model-based Operational Planning using Coloured Petri Nets. In Proc. of 6th International Command and Control Research and Technology Symposium (CCRTS), 2001.

- C10** L.M. Kristensen. Exploiting Place Invariants in Condensed State Space Construction for Coloured Petri Nets. In Proc. of International Conference on Parallel Processing Techniques and Applications (PDPTA'2001), Vol II, pp. 661-667. CSREA Press, 2001.
- C9** L. Lorentsen and L.M. Kristensen. Exploiting Stabilizers and Parallelism in State Space Generation with the Symmetry Method. In Proc. of International Conference on Application of Concurrency in System Design (ICACSD'2001), pp. 211-220. IEEE Computer Society 2001.
- C8** S. Christensen, L.M. Kristensen, and T. Mailund. Condensed State Spaces for Timed Petri Nets. In Proc. of the 22nd International Conference on Application and Theory of Petri Nets (ICATPN'2001). Vol. 2075 of Lecture Notes in Computer Science, pp. 101-120. Springer-Verlag, 2001.
- C7** S. Gordon, L.M. Kristensen, and J. Billington. An Approach to Generalising the State Space of a Distributed Missile Simulator. In Proc. of 11th Annual International Symposium of the International Council on System Engineering (INCOSE'2001), 2001.
- C6** C. Ouyang, L.M. Kristensen, and J. Billington. Towards Modelling and Analysis of the Internet Open Trading Protocol Transactions Using Coloured Petri Nets. In Proc. of 11th Annual International Symposium of the International Council on System Engineering (INCOSE'2001), 2001.
- C5** S. Christensen, L.M. Kristensen, and T. Mailund. A Sweep-Line Method for State Space Exploration. In Proc. 7th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS'2001). Vol. 2031 of Lecture Notes in Computer Science, pp. 450-464. Springer Verlag, 2001.
- C4** L.M. Kristensen and A. Valmari. Improved Question-Guided Stubborn Set Methods for State Properties. In Proc. of 20th International Conference on Application and Theory of Petri Nets (ICATPN'2000). Vol. 1825 of Lecture Notes in Computer Science, pp. 282-302. Springer-Verlag, 2000.
- C3** L. Lorentsen and L.M. Kristensen. Modelling and Analysis of a Danfoss Flowmeter System using Coloured Petri Nets. In Proc. of 20th International Conference on Application and Theory of Petri Nets (ICATPN'2000). Vol. 1825 of Lecture Notes in Computer Science, pp. 346-366. Springer-Verlag, 2000.
- C2** L.M. Kristensen and A. Valmari. Finding Stubborn Sets of Coloured Petri Nets Without Unfolding. In Proc. of 19th International Conference on Application and Theory of Petri Nets (ICATPN'98). Vol. 1420 of Lecture Notes in Computer Science, pp. 104-123. Springer-Verlag, 1998.
- C1** S. Christensen, J.B. Jørgensen, and L.M. Kristensen. Design/CPN – A Computer Tool for Coloured Petri Nets. In Proc. of 3rd International Workshop on Tools and Algorithms for the Construction and Analysis of Systems (TACAS'97). Vol. 1217 of Lecture Notes in Computer Science, pp. 209-223. Springer-Verlag, 1997.

#### **WORKSHOP PAPERS**

- W26** S. Evangelista and L.M. Kristensen. Search-Order Independent State Caching. In Proc. of 10th Workshop on Practical Use of Coloured Petri Nets and the CPN Tools, pp. 219-240, 2009.
- W25** K.L. Espensen, M.K. Kjeldsen, L.M. Kristensen, and M. Westergaard. Towards Automatic Code Generation from Process-Partitioned Coloured Petri Nets. In Proc. of 10th Workshop on Practical Use of Coloured Petri Nets and the CPN Tools, pp. 41-60, 2009.

- W24** M. Westergaard, L.M. Kristensen, and M. Kuusela. A Prototype for Cosimulating SystemC and Coloured Petri Nets Models. In Proc. of 10th Workshop on Practical Use of Coloured Petri Nets and the CPN Tools, pp. 1-21, 2009.
- W23** S. Evangelini, M. Westergaard, and L.M. Kristensen. The ComBack Method Revisited: Caching Strategies and Extension with Delayed Duplicate Detection. In Proc. of 9th Workshop on Practical Use of Coloured Petri Nets and the CPN Tools, pp. 63-82, 2008.
- W22** M. Westergaard and L.M. Kristensen. JoSEL: A Visual Language for Specification and Execution of Verification Jobs in Model Checking. In Proc. of 9th Workshop on Practical Use of Coloured Petri Nets and the CPN Tools, pp. 7-26, 2008.
- W21** P. Fleischer and L.M. Kristensen. Modelling the Configuration/Management API Middleware Using Coloured Petri Nets. In Proc. of 1st International Workshop on Petri Nets Tools and Applications, 2008.
- W20** L.M. Kristensen and M. Westergaard. The ASAP Platform: Next Generation Tool Support for State Space Analysis. In Proc. of 8th Workshop on Practical Use of Coloured Petri Nets and the CPN Tools, pp. 1-6, 2007.
- W19** K.L. Espensen, M.K. Kjeldsen, and L. M. Kristensen. Towards Modelling and Verification of the DYMO Routing Protocol for Mobile Ad-hoc Networks. In Proc. of 8th Workshop on Practical Use of Coloured Petri Nets and the CPN Tools, pp. 243-263, 2007.
- W18** P. Fleischer and L.M. Kristensen. Towards Specification and Validation of Secure Connection Establishment in a Generic Access Network Scenario. In Proc. of 8th Workshop on Practical Use of Coloured Petri Nets and the CPN Tools, pp. 9-28, 2007.
- W17** L.M. Kristensen and K. Jensen. Teaching Modelling and Validation of Concurrent Systems using Coloured Petri Nets. In Proc. of 2nd Workshop on Teaching Concurrency (TeaConc'07), pp. 67-78, 2007.
- W16** L.M. Kristensen, P. Mechlenborg, L. Zhang, B. Mitchell, and G.E. Gallasch. Model-based Development of a Course of Action Scheduling Tool. In Proc. of 7th Workshop and Tutorial on Practical Use of Colored Petri Nets and CPN Tools, pp. 1-26. DAIMI PB-579. 2006.
- W15** G.E. Gallasch, S. Vanit-Anunchai, J. Billington and L.M. Kristensen. Checking Language Inclusion On-The-Fly with the Sweep-Line Method. In Proc. of 6th Workshop and Tutorial on Practical Use of Colored Petri Nets and CPN Tools, pp. 1-20. DAIMI PB-576. 2005.
- W14** G.E. Gallasch, C. Ouyang, J. Billington, and L.M. Kristensen. Experimenting with Progress Mappings for the Sweep-Line Analysis of the Internet Open Trading Protocol. In Proc. of 5th Workshop and Tutorial on Practical Use of Coloured Petri Nets and CPN Tools, pp. 19-38, DAIMI-PB 570. 2004
- W13** B. Mitchell, L.M. Kristensen, and L. Zhang. Formal Specification and State Space Analysis of an Operational Planning Process. In Proc. of 5th Workshop and Tutorial on Practical Use of Coloured Petri Nets and CPN Tools, pp. 1-18, DAIMI-PB 570. 2004
- W12** L.M. Kristensen. Using Coloured Petri Nets in the Development of Protocols for Ad-Hoc Networking. In Proc. of 3rd International Workshop on Integration and Specification Techniques for Applications in Engineering, pp. 12-13.
- W11** G. Gallasch, L.M. Kristensen, and T. Mailund. Sweep-Line State Space Exploration of Coloured Petri Nets. In Proc. of 4th Workshop and Tutorial on Practical Use of Coloured Petri Nets and CPN Tools (CPN'02), pp. 101-120. DAIMI PB-560. 2002.

- W10** M. Elliot, J. Billington, and L.M. Kristensen. Using Design/CPN to Design a Visualisation Extension to Design/CPN. In Proc. of 4th Workshop and Tutorial on Practice Use of Coloured Petri Nets and CPN Tools (CPN'02), pp. 21-38. DAIMI PB-560. 2002.
- W9** L. Petrucci, L.M. Kristensen, J. Billington, and Z. Qureshi. Towards Formal Specification and Analysis of Avionics Mission System. In Proc. of Workshop on Formal Methods Applied to Defence Systems, pp. 95-104. Vol. 12 of Conferences in Research and Practice in Information Technology. Australian Computer Society, 2002.
- W8** L.M. Kristensen, B. Mitchell, L. Zhang, and J. Billington. Modelling and Initial Analysis of Operational Planning Processes using Coloured Petri Nets. In Proc. of Workshop on Formal Methods Applied to Defence Systems, pp. 105-114. Vol. 12 of Conferences in Research and Practice in Information Technology. Australian Computer Society, 2002.
- W7** L. Zhang, L.M. Kristensen, C. Janczura, G. Gallasch, and J. Billington. A Coloured Petri Net based Tool for Course of Action Development and Analysis. In Proc. of Workshop on Formal Methods Applied to Defence Systems, pp. 125-134. Vol. 12 of Conferences in Research and Practice in Information Technology. Australian Computer Society, 2002.
- W6** S. Christensen, K. Jensen, T. Mailund and L.M. Kristensen. State Space Methods for Timed Coloured Petri Nets. In Proc. of 2nd International Colloquium on Petri Net Technologies for Modelling Communication Based Systems, pp. 14-15. 2001.
- W5** G. Gallasch and L.M. Kristensen. Comms/CPN: A Communication Infrastructure for External Communication with Design/CPN. In Proc. of the 3rd Workshop on Practical Use of Coloured Petri Nets and the CPN Tools (CPN'01), pp. 79-93. DAIMI PB-554. 2001.
- W4** C. Ouyang, L.M. Kristensen, and J. Billington. An Improved Architectural Specification of the Internet Open Trading Protocol Transactions. In Proc. of the 3rd Workshop on Practical Use of Coloured Petri Nets and the CPN Tools (CPN'01), pp. 119-137. DAIMI PB-554. 2001.
- W3** L.M. Kristensen and J. C. Figueiredo. Using Coloured Petri Nets to Investigate Behavioural and Performance Issues of the TCP Protocol. In Proc. of the 2nd Workshop on Practical Use of Coloured Petri Nets and Design/CPN, pp. 21-40. DAIMI PB-541. 2000.
- W2** J.B. Jørgensen and L.M. Kristensen. Verification of Coloured Petri Nets Using State Spaces with Equivalence Classes. In Proc. of Workshop on Petri Nets in System Engineering (PNSE) – Modelling, Verification, and Validation. Publication No. 205, University of Hamburg, Fachberich Informatik, pp. 20-31, 1997.
- W1** S. Christensen and L.M. Kristensen. State Space Analysis of Hierarchical Coloured Petri Nets. In Proc. of Workshop on Petri Nets in System Engineering (PNSE) – Modelling, Verification, and Validation. Publication No. 205, University of Hamburg, Fachberich Informatik, pp. 32-43, 1997.