

Publications

Journal Articles

- [1] Stephan A. Rein and Martin Reisslein. “Low-memory wavelet transforms for wireless sensor networks: a tutorial”. In: *IEEE Communications Surveys and Tutorials* vol. 13, issue 2 (Second Quarter 2011). pp. 291–307.
Shorter version appeared in the IEEE Comm. Society MMTC E-Letter, vol. 6, no. 3, March 2011.
- [2] Stephan A. Rein, Frank H.P. Fitzek, Clemens Gühmann, and Thomas Sikora. “Evaluation of the wavelet image two-line coder”. In: *Image Communication Journal* vol. 37, issue C (Sept. 2015). pp. 58–74.
- [3] Stephan A. Rein and Martin Reisslein. “Performance evaluation of the fractional wavelet filter: a low-memory image wavelet transform for multimedia sensor networks”. In: *Ad Hoc Networks* vol. 9, issue 4 (June 2011). pp. 482–496.
- [4] Stephan A. Rein, Clemens Gühmann, and Frank H.P. Fitzek. “Compression of short text on embedded systems”. In: *Journal of Computers* vol. 1.no. 6 (2006). pp. 1–10.
- [5] Stephan A. Rein and Martin Reisslein. “Identifying the classical music composition of an unknown performance with wavelet dispersion vector and neural nets”. In: *Information Sciences* vol. 176, issue 12 (June 2006). pp. 1629–1655.
- [6] Frank H.P. Fitzek, Stephan A. Rein, Patrick Seeling, and Martin Reisslein. “RObust Header Compression (ROHC) performance for multimedia transmission over 3G/4G wireless networks”. In: *Wireless Personal Communications* vol. 32, no. 1 (Jan. 2005). pp. 23–41.

Conference Proceedings

- [1] Gergő Ertli, Achuthan Paramanathan, Stephan A. Rein, Daniel E. Lucani, and Frank H.P. Fitzek. “Network coding in the bidirectional cross: a case study for the system throughput and energy”. In: *Proc. IEEE 77th Vehicular Technology Conference (VTC Spring)*. Dresden, Germany, June 2013, pp. 1–5.
- [2] Martin Hundebøll, Stephan A. Rein, and Frank H.P. Fitzek. “Impact of network coding on delay and throughput in practical wireless chain topologies”. In: *Proc. IEEE 10th Consumer Communications and Networking Conference (CCNC)*. Las Vegas, NV, Jan. 2013, pp. 381–386.
- [3] Alessandro Messina, Gabriel Caragea, Pol Torres Compta, Frank H.P. Fitzek, and Stephan A. Rein. “Investigating call drops with field measurements on commercial mobile phones”. In: *Proc. IEEE 77th Vehicular Technology Conference (VTC Spring)*. Dresden, Germany, June 2013, pp. 1–5.
- [4] Martin Hundebøll, Jeppe Ledet-Pedersen, Janus Heide, Morten V. Pedersen, Stephan A. Rein, and Frank H.P. Fitzek. “CATWOMAN: Implementation and performance evaluation of IEEE 802.11 based multi-hop networks using network coding”. In: *Proc. 76th IEEE Vehicular Technology Conference (VTC Fall)*. Quebec City, Canada, Sept. 2012, pp. 1–5.
- [5] Peyman Pahlevani, Achuthan Paramanathan, Martin Hundebøll, Janus Heide, Stephan A. Rein, and Frank H.P. Fitzek. “Reliable communication in wireless meshed networks using network coding”. In: *Proc. 76th IEEE Vehicular Technology Conference (VTC Fall)*. Quebec City, Canada, Sept. 2012, pp. 1–5.

- [6] Achuthan Paramanathan, Janus Heide, Peyman Pahlavani, Martin Hundebøll, Stephan A. Rein, Frank H.P. Fitzek, and Gergő Ertli. “Energy and data throughput for asymmetric inter-session network coding”. In: *Proc. IEEE 17th International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD)*. Barcelona, Sept. 2012, pp. 358–363.
- [7] Achuthan Paramanathan, Ulrik W. Rasmussen, Martin Hundebøll, Stephan A. Rein, Frank H.P. Fitzek, and Gergő Ertli. “Energy consumption model and measurement results for network coding-enabled IEEE 802.11 meshed wireless networks”. In: *Proc. IEEE 17th International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD)*. Barcelona, Sept. 2012, pp. 286–291.
- [8] Fang Zhao, Muriel Médard, Martin Hundebøll, Jeppe Ledet-Pedersen, Stephan A. Rein, and Frank H.P. Fitzek. “Comparison of analytical and measured performance results on network coding in IEEE 802.11 ad-hoc networks”. In: *Proc. IEEE International Symposium on Network Coding (NetCod’12)*. Cambridge, MA, June 2012, pp. 43–48.
- [9] Volker Parsiegla, Stephan A. Rein, and Adam Wolisz. “A network-aware protocol for switching HTTP streams between devices”. In: *Proc. IEEE International Conference on Consumer Electronics (ICCE)*. Berlin, Germany, Sept. 2011, pp. 74–78.
- [10] Chayan Sarkar, Stephan A. Rein, and Adam Wolisz. “Scalable video streaming with utilization of multiple radio interfaces: a customized method for signaling and bandwidth estimation”. In: *Proc. 8th International Symposium on Wireless Communication Systems (ISWCS)*. Aachen, Germany, Nov. 2011, pp. 829–833.
- [11] Jeremy Zylberberg, Stephan A. Rein, and Adam Wolisz. “Recognition of personal interest using cooperation of smartphone and camera sensors”. In: *Proc. European Conference on Wireless Sensor Networks (EWSN’11)*. Bonn, Germany, Mar. 2011, pp. 29–31.
- [12] Stephan A. Rein, Stephan Lehmann, and Clemens Gühmann. “Wavelet image two-line coder for camera sensor node with extremely little RAM”. In: *Proc. IEEE Data Compression Conference (DCC’09)*. Snowbird, UT, Mar. 2009, pp. 252–261.
- [13] Stephan Lehmann, Stephan A. Rein, and Clemens Gühmann. “External flash filesystem for sensor nodes with sparse resources”. In: *Proc. ACM Mobile Multimedia Communications Conference (Mobimedia ’08)*. Oulu, Finland, July 2008.
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- [15] Frank H.P. Fitzek, Morten V. Pedersen, Gian Paolo Perrucci, Stephan A. Rein, and Clemens Gühmann. “Convergence of mobile devices and wireless sensor networks”. In: *Proc. 17th Wireless World Research Forum Meeting (WWRF’17)*. Vol. 17. Heidelberg, Germany, Nov. 2006, pp. 1–5.
- [16] Frank H.P. Fitzek, Stephan A. Rein, Morten V. Pedersen, Gian Paolo Perrucci, Thorsten Schneider, and Clemens Gühmann. “Low complex and power efficient text compressor for cellular and sensor networks”. In: *Proc. 1ST Mobile and Wireless Communications Summit*. Mykonos, Greece, June 2006.
- [17] Stephan A. Rein, Frank H.P. Fitzek, and Clemens Gühmann. “Low-complexity compression of short messages”. In: *Proc. IEEE Data Compression Conference (DCC’06)*. Snowbird, UT, Mar. 2006, pp. 123–132.

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- [19] Stephan A. Rein, Frank H.P. Fitzek, and Martin Reisslein. “Voice quality evaluation for wireless transmission with ROHC”. In: *Proc. IASTED International Conference on Internet and Multimedia Systems and Applications (IMSA ’03)*. Honolulu, HI, Aug. 2003, pp. 461–466.

Book Chapters

- [1] Frank H. P. Fitzek and Stephan A. Rein. “Convergence of Mobile Devices and Wireless Sensor Networks”. In: *Mobile Phone Programming – Applications to Wireless Networking*. Springer, 2007, pp. 375–380. ISBN: 978-1-4020-5968-1.
- [2] Stephan A. Rein, Clemens Gühmann, and Frank H. P. Fitzek. “Sensor Networks for Distributive Computing”. In: *Mobile Phone Programming – Applications to Wireless Networking*. Springer, 2007, pp. 397–410. ISBN: 978-1-4020-5968-1.

Patents

- [1] Stephan A. Rein, Clemens Gühmann, and Frank H. P. Fitzek. “Compression of Short Text on Embedded Systems”. *WIPO Patent Application* WO2007104313A1. 2007.

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