

REPORT UPDATE ON ACTIVITY WG 2

6th November 2015 - Istanbul, TURKEY

PUBLICATIONS

The publication update reported by WG members right before the meeting in Istanbul is the following.

- M. Junuzović, K. Alič, and A. Švigelj, "Wireless Broadcast Transmission Scheme for Reliable Video-Streaming Service," *WSEAS Transactions on Communications*, vol. 14, pp. 56-266, 2015.
- Anglano, Cosimo and Gaeta, Rossano and Grangetto, Marco, "Exploiting Rateless Codes in Cloud Storage Systems", *IEEE Transactions on Parallel and Distributed Systems*, vol. 26, Nr. 5, pp. 1313–1322, 2015.
- Fiandrotti, Attilio and Gaeta, Rossano and Grangetto, Marco, "mple Countermeasures to Mitigate the Effect of Pollution Attack in Network Coding-Based Peer-to-Peer Live Streaming", *IEEE Transactions on Multimedia*, vol. 17, Nr. 4, pp. 562–573, 2015.
- R. Alegre-Godoy and M. A. Vázquez-Castro. "Network Coded Multicast over Multi-beam Satellite Systems." *Mathematical Problems in Engineering*, vol. 2015, Article ID 364234, 15 pages, May 2015.
- P. Saxena and M. A. Vázquez-Castro. "DARE: DoF-Aided Random Encoding for Network Coding over Lossy Line Networks." *IEEE Communications Letters*, vol. 19, No. 8, pp. 1374 - 1377, August 2015.
- P. Saxena and M. A. Vázquez-Castro. "Link Layer Systematic Random Network Coding for DVB-S2X/RCS." *IEEE Communications Letters*, vol. 19, No. 7, pp. 1161 - 1164, July 2015.
- M. A. Pimentel-Niño, P. Saxena and M. A. Vázquez-Castro. "Reliable Adaptive Video Streaming Driven by Perceptual Semantics for Situational Awareness." *The Scientific World Journal*, vol. 2015, Article ID 394956, 16 pages, April 2015.

Conferences

- M. Junuzović, K. Alič, and A. Švigelj, "Reliable video-streaming delivery in wireless access networks using Network Coding," presented at the 15th International Conference on Applied Computer Science, Konya, Turkey, 2015.
- Fiandrotti, Attilio and Gaeta, Rossano and Grangetto, Marco, "Pollution-resilient peer-to-peer video streaming with Band Codes", 2015 IEEE International Conference on Multimedia and Expo (ICME), 2015.
- Marco Gribaudo, Mauro Iacono and Daniele Manini, "Modeling replication and erasure coding in large scale distributed storage systems based on CEPH", XII edition of the itAIS conference, 2015.
- M. A. Vázquez-Castro, "A Geometric Approach to Dynamic Network Coding". Information Theory Workshop, Jeju, Korea. Oct. 2015.
- M. A. Vázquez-Castro, "Subspace coding over Fq-linear erasure satellite channels". *12th International Symposium on Wireless Communication Systems*, August 2015. **INVITED PAPER.**
- M. A. Vázquez-Castro and P. Saxena, "Network Coding over Satellite: From Theory to Design and Performance", Volume 154 of the series Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering pp 315-327. Sept. 2015. **INVITED PAPER.**

Preprints

- Optimal Ferrers Diagram Rank-Metric Codes (E. Gorla with T. Etzion, A. Ravagnani, A. Wachter-Zeh)
- Equidistant subspace codes (E. Gorla with A. Ravagnani)
- Rank distribution of Delsarte codes (E. Gorla with J. De la Cruz, H. Lopez, A. Ravagnani)

STSMs and Dissemination Activities

- Ángeles Vázquez-Castro (Autonomous University of Barcelona, Spain) informs about her presentation at the IRTF (Internet research Task Force) research group on network coding (nwcrgr) that took place in Prague in July 2015. The trip was sponsored by the COST Action as a dissemination activity and she presented a joint technical work together with the following members of WG2:
 - o I. Chatzigeorgiou (University of Lancaster, UK)
 - o P. Saxena (AnsuR Technologies, Norway - formerly with Autonomous University of Barcelona, Spain)
 - o A. Tassi (University of Bristol, UK)
 - o D. Vukobratovic (University of Novi Sad, Serbia)
- The presentation can be found online at the IRTF web site: <https://www.ietf.org/proceedings/93/slides/slides-93-nwcrgr-0.pdf>. It was well received, and the team will probably follow on with the contribution.

INTERNATIONAL PROJECTS

- Angeles Vázquez-Castro, from Autonomous University of Barcelona, Spain, and her team is part of the consortium of an European Space Agency funded project to implement network coding for video transmission in the upper layers. The project started the 1st of October 2015 and will last two years. The project web site will soon be available.

TESTBEDS

- Gunes Garabulut Kurt, from Istanbul Technical University, Turkey, informs that her research group has implemented a network coded cooperative system by using software defined radio nodes. The results have been submitted to the EURASIP special issue on Network Coding. Preliminary results has been presented at DARNEC 2015.
- Further developments in a testbed consisted of WiFi access point, server and several clients. It is used for performance evaluation of reliable video-streaming delivery in wireless access networks using Network Coding.