



THE CHINESE UNIVERSITY OF HONG KONG  
Institute of Network Coding  
and  
Department of Information Engineering  
*Seminar*



## **Non-Binary LDPC Erasure Codes with Separated Low-Degree Variable Nodes**

by

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**Time : 2:00 - 3:00 pm**

**Venue : Room 833 , Ho Sin Hang Engineering Building  
The Chinese University of Hong Kong**

### Abstract

In this talk a novel ensemble of non-binary low-density parity-check codes is introduced and analyzed. The ensemble is characterized by a careful control of the amount and of the connectivity of the variable nodes of small degrees and it is analyzed in terms of average weight distribution and its growth rate. Finally, numerical examples on erasure channels are given to show that codes from the ensemble provide a remarkable trade-off between waterfall performance, error floor and decoding complexity.

### Biography

Giuliano Garrammone was born in Pesaro, Italy, in 1983. He received the Ph.D. degree in Electrical Engineering and Information Technology from the Technical University of Munich, Germany, in March 2015, and the M.Sc. degree in Electronic Engineering from the University of Bologna, Italy, in 2008. His education is characterized by international experiences at the Information Processing and Systems Labs, France, at the University of California Santa Barbara, US, and at the Polytechnic University of Valencia, Spain.

He works for the Institute of Communications and Navigation of the German Aerospace Center (DLR) in Germany, since 2008, as a scientific researcher. His main research interests include error control coding and network coding for wireless communications systems, in particular for satellite communications, with focus on low-density parity-check codes, rate-less codes and Reed-Solomon codes. He serves the IEEE as a reviewer for Transactions, Journals and Conferences, as well as a technical program committee member. In 2013 he received the Exemplary Reviewer Award from the international journal IEEE COMMUNICATIONS LETTERS.

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