

# CURRICULUM VITAE OF ARNALDO SPALVIERI

Arnaldo Spalvieri

Dipartimento di Elettronica e Informazione, Politecnico di Milano,  
Piazza Leonardo da Vinci 32 — I-20133 Milano (Italy),  
phone (+39) 02 23993595, fax (+39) 02 23993413, e-mail spalvier@elet.polimi.it.

October 10, 2013

## 1 Curriculum Vitae of Arnaldo Spalvieri

Arnaldo Spalvieri was born in Senigallia (Italy) on March, 23, 1961. He received his degree in electronic engineering from the University of Ancona (Italy) in 1985. From 1986 to 1992 he was in the modem lab. of Telettra (now Alcatel-Lucent), working at the design of modems for high capacity digital radio systems. From 1992 to 1998 he was with the Dipartimento di Elettronica e Informazione at Politecnico di Milano as an assistant professor, and from 1998 he was appointed associate professor. His major research activity is in the field of digital transmission systems for telecommunications. Specifically, his research is focused on channel coding, channel equalization, synchronization. He has also been active in the area of neural networks for pattern recognition. In the past years he has held courses in the area of digital communications, such as Signals and Systems and Communication Systems. Now he holds the course *Digital Communication* at Politecnico di Milano. He is co-author of more than 40 review papers, 50 conference papers, and several international patents. From 1992 he has been a consultant of the industry, including Alcatel-Lucent, STMicroelectronics, Andrew, Carlo Gavazzi Space. In 2006 he co-founded the company Binary Core, a spinoff of Politecnico di Milano active in the area of design on FPGA of modulators for point-to-point terrestrial radio and for digital video broadcasting.

## 2 Area of Interest

Information and Communication Theory, with emphasis on Channel Coding, Modulation, Equalization, Synchronization.

## 3 Publications

A list of recent publications follows.

## References

- [1] L. Barletta, M. Magarini, and A. Spalvieri, “A New Lower Bound below the Information Rate of Wiener Phase Noise Channel Based on Kalman Carrier Recovery,” *Optics Express*, accepted for publication.
- [2] M. Magarini, L. Barletta, A. Spalvieri, A. Leven, M. Pepe, and G. Gavioli, “Impact of non-ideal phase reference on soft decoding of differentially encoded modulation,” *IEEE Photonics Technol. Letters*, preprint available for download at IEEEXplore website.
- [3] L. Barletta, M. Magarini, and A. Spalvieri, “Staged demodulation and decoding,” *Optics Express*, vol. 20, issue 21, pp. 23728–23734, Oct. 8, 2012.
- [4] M. Magarini, L. Barletta, and A. Spalvieri, “Efficient computation of the feedback filter for the hybrid decision feedback equalizer in highly dispersive channels,” *IEEE Trans. Wireless Commun.*, vol. 11, no. 6, pp. 2245–2253, June 2012.
- [5] L. Barletta, M. Magarini, and A. Spalvieri, “The information rate transferred through the discrete-time Wiener’s phase noise channel,” *IEEE J. Lightw. Technol.*, vol. 30, no. 10, pp. 1480–1486, May 15, 2012.
- [6] M. Magarini, L. Barletta, A. Spalvieri, F. Vacondio, T. Pfau, M. Pepe, M. Bertolini, and G. Gavioli, “Pilot-symbols-aided carrier-phase recovery for 100-G PM-QPSK digital coherent receivers,” *IEEE Photonics Technology Letters*, vol. 24, issue 9, pp. 739–741, May 01, 2012.
- [7] M. Magarini, A. Spalvieri, F. Vacondio, M. Bertolini, M. Pepe, and G. Gavioli, “Empirical modeling and simulation of phase noise in long-haul coherent optical systems,” *Optics Express*, vol. 19, issue 23, pp. 22455–22461, Nov. 7, 2011.
- [8] L. Barletta, M. Magarini, and A. Spalvieri, “Estimate of information rates of discrete-time first-order Markov phase noise channel,” *IEEE Photonics Technology Letters*, vol. 23, no. 21, pp 1582–1584, Nov. 1, 2011.
- [9] A. Spalvieri and L. Barletta, “Pilot-aided carrier recovery in the presence of phase noise,” *IEEE Trans. Commun.*, vol. 59, no. 7, pp. 1966–1974, July 2011.

- [10] E. Carni and A. Spalvieri “Synchronous CDMA based on the cyclical translations of a CAZAC sequence,” *IEEE Transactions on Wireless Communications*, vol. 8, no. 3, pp. 1144-1147, March 2009.
- [11] M. Albanese and A. Spalvieri “Two algorithms for soft-decision decoding of Reed-Solomon codes with application to multilevel coded modulations,” *IEEE Transactions on Communications*, vol. 56, no. 10, pp. 1569-1574, Oct. 2008.
- [12] A. Spalvieri and M. Magarini, “Wiener’s analysis of the discrete-time phase-locked loop with loop delay,” *IEEE Trans. Circuits and Systems II*, vol. 55, pp. 596–600, June 2008.