



# Seminarankündigung

**Dienstag, 24. April 2012  
17:15 Uhr**

**WSI, Seminarraum S 101**

## **“Analysis and design of binary message passing decoders”**

Binary message passing decoders for low-density parity-check (LDPC) codes are studied by using extrinsic information transfer (EXIT) charts. The channel delivers hard or soft decisions and the variable node decoder performs log-likelihood computations. A hard decision channel results in the Gallager B algorithm, and enlarging the output alphabet from hard decisions (one bit) to two bits yields a gain of more than 1.0 dB in the required signal-to-noise ratio when using optimized codes. It is further shown that errors on cycles consisting only of degree two and three variable nodes cannot be corrected.

This is joint work with G. Lechner (University of South Australia) and T. Pedersen (Aalborg University).

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