

## I. Statistical inference for genomics

### Articles in journals and book chapters

- [1] Tabus, I., Astola, J. On the Use of MDL Principle in Gene Expression Prediction. *Journal of Applied Signal Processing*, Volume 2001, No. 4, pp. 297-303, December 2001.
- [2] Tabus, I., Rissanen, J., Astola, J. Normalized maximum likelihood models for Boolean regression with application to prediction and classification in genomics. Chapter 10 in "Computational And Statistical Approaches To Genomics" (W. Zhang and I. Shmulevich, eds.), Kluwer Academic Publishers, Boston, March 2002.
- [3] Fuller, G., Hess, K., Mircean, C., Tabus, I., Shmulevich, I., Rhee, C., Aldape, K., Bruner, J., Sawaya, A., Zhang, W. (2002) Human glioma diagnosis from gene expression data. Chapter 14 in "Computational And Statistical Approaches To Genomics" (W. Zhang and I. Shmulevich, eds.), Kluwer Academic Publishers, Boston, March 2002.
- [4] Tabus, I., Rissanen, J., Astola, J. Classification and feature gene selection using the normalized maximum likelihood model for discrete regression. Submitted to *Signal Processing*, Special issue on genomic signal processing, submitted April 2002.
- [5] C. Mircean, I. Tabus, J. Astola, T. Kobayashi, H. Shiku, I. Shmulevich, W. Zhang. Quantization and similarity measure selection for discrimination of lymphoma subtypes under k-nearest neighbor classification. Submitted to *Bioinformatics*, submitted April 2002.

### Articles in conference proceedings

- [6] I. Tabus, J. Astola Using MDL for Gene Expression Prediction from Microarray Measurements. In *NSIP01*, Baltimore, Maryland, USA, June 3-6, 2001.
- [7] C. Mircean, I. Tabus, J. Astola. Quantization and distance function selection for discrimination of tumors using gene expression data. *SPIE 2002, BIOS 2002 symposium*, 19-25 January 2002, San Jose, CA., 2002.
- [8] Tabus, I., Rissanen, J., Astola, J. A classifier based on normalized maximum likelihood model for classes of Boolean regression models. In *EUSIPCO'02*, Toulouse, France, September 3-6, 2002, accepted.

### Presentations at international forums

- [9] I. Tăbuș. *Using the MDL principle for gene expression prediction from microarray measurements*. 2'nd Annual Houston Forum on Cancer Genomics and Informatics, M.D. Anderson Cancer Center, Houston, Texas, July 27-28, 2001.

## II. Source Compression

### 1. Articles in journals

- [10] I. Tabus, J. Rissanen. Asymptotics of Greedy Algorithms for Variable-to-Fixed Coding of Markov Sources. *IEEE Trans. Information Theory*, Vol. 48, No. 7, July 2002.
- [11] C.D. Giurcaneanu, I. Tabus Optimal coding of quantized Laplacian sources for predictive image compression. *Journal of Mathematical Imaging and Vision*. Vol. 16, No. 3, May 2002.
- [12] C. D. Giurcaneanu, I. Tabus, S. Mereuta Using contexts and R-R interval estimation in lossless ECG compression. *Computer Methods and Programs in Biomedicine*, Section I: Methodology, No. 67, pp. 177–186, March 2002.
- [13] B. Dumitrescu, I. Tabus. Predictive LSF computation. *Signal Processing*, vol.81, no.10, pp.2019-2031, 2001.
- [14] A. Vasilache, B. Dumitrescu, I. Tabus Multiple-Scale Leader-Lattice VQ with Application to LSF Quantization. *Signal Processing*, submitted July 2000, accepted October 2001.
- [15] R. Iordache, I. Tabus, and J. Astola Robust index assignment for transmitting vector quantized LSF parameters over finite-memory contagion channels using Hadamard transform. *Circuits, Systems and Signal Processing*, submitted June 2001, accepted April 2002.

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- [16] A. Vasilache, I. Tabus. LSF quantization with multiple scale lattice VQ for transmission over noisy channels. In *Eusipco-2002*, Toulouse, France, 2002.
- [17] R. Iordache, I. Tabus. Index assignment for VQ image transmission over bursty channels. In *ICT 2001*, IEEE International Conference on Telecommunications, June 4-7, Bucharest, Romania, Vol.II, pp.133–137, 2001.
- [18] C.D. Giurcaneanu, I. Tabus, and S. Mereuta. Long term prediction using QRS detection for lossless ECG compression. In *NSIP01*, Baltimore, Maryland, USA, June 3-6, 2001.
- [19] A. Vasilache and I. Tabus. Indexing and entropy coding of lattice codevectors. In *ICASSP-2001*, Salt Lake City, Utah, May 7-11, vol. IV, pp. 2605-2608, 2001.
- [20] C. D. Giurcaneanu, I. Tabus Low-complexity transform coding with integer-to-integer transforms. In *ICASSP-2001*, Salt Lake City, Utah, May 7-11, vol. IV, pp. 2601-2604, 2001.

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- [21] I. Tăbuș. *On the use of Hadamard transform for index assignment over channels with memory*. Diderot Mathematical Forum, "Mathematics and Telecommunications", Eindhoven, Lausanne, Helsinki, November 22-23, 2001.

### III. Estimation, optimization, adaptive filtering

#### Articles in journals

- [22] B. Dumitrescu, I. Tabus, P. Stoica. On the parameterization of positive real sequences and MA parameter estimation. *IEEE Transactions on Signal Processing*, vol. 49, no. 11, pp.2630–2639, November 2001.
- [23] I. Tabus, C. Popeea and J. Astola. A Design Procedure for Optimal Energy Compaction IIR Filters. *IEEE Trans. Circuits and Systems II*, Vol.48, No. 7, 740–744, July 2001.
- [24] R. Niemisto, B. Dumitrescu and I. Tabus SDP design procedures for near-optimum IIR compaction filters. *Signal Processing*, accepted February 2002.

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- [25] R. Niemistö, I. Tabus. Signal Adaptive Subband Decomposition for Adaptive Echo Cancellation. In Proceedings of the 7th International Conference on Acoustic Echo and Noise Control, IWAENC 2001, pp. 53-56, Darmstadt, Germany, September 2001.
- [26] R. Niemistö, I. Tabus. Signal Adaptive Subband Decomposition for Adaptive Noise Cancellation. In Proceedings of the 15th European Conference on Circuit Theory and Design, ECCTD 2001, vol. 1, pp. 53-56, Espoo, Finland, August 2001.
- [27] R. Niemistö, B. Dumitrescu, I. Tabus. Optimization of IIR compaction filter with fixed angle poles. In *ISPA 2001 2<sup>nd</sup> International Symposium on Image and Signal Processing and Analysis*, Pula, Croatia, June 19–21, pp.524–529, 2001.
- [28] B. Dumitrescu, I. Tabus. SQLP design of factorable FIR Nyquist filters. In *ICT 2001*, IEEE International Conference on Telecommunications, June 4-7, Bucharest, Romania, Vol.I, pp.399–404, 2001.
- [29] R. Niemistö, B. Dumitrescu, I. Tabus SDP Design Procedure for Energy Compaction IIR Filters. In *ICASSP-2001*, Salt Lake City, Utah, vol. VI, pp. 3825-3828, May 7-11, 2001.

## IV. Nonlinear filtering

### Book chapter

- [30] D. Petrescu, I. Tabus, M. Gabbouj. Optimal Design of Boolean and Stack Filters and Their Application in Image Processing. In *Nonlinear Model-Based Image/Video Processing and Analysis*, C. Kotropoulos, I. Pitas (Editors) ISBN: 0-471-37735-X, Wiley Interscience, pp. 15-58 April 2001.

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- [31] B. Dumitrescu, I. Tabus, S. Peltonen, J. Astola, Edward Dougherty. Efficient design of minimax ODIF robust stack filters. In *ISSPA2001 Sixth International Symposium on Signal Processing and its Applications*, Kuala-Lumpur, Malaysia, August 13-16, pp.44-47, 2001.
- [32] R. Iordache, I. Tabus, A. Beghdadi Median-based postprocessing for VQ image transmission over noisy channels. In *ISSPA2001 Sixth International Symposium on Signal Processing and its Applications*, Kuala-Lumpur, Malaysia, August 13-16, pp.48-51, 2001.
- [33] S. Peltonen, I. Tabus, J. Astola, E. Dougherty, N. Hirata Robust optimization of stack filters. In *NSIP01*, Baltimore, Maryland, USA, June 3-6, 2001.
- [34] T. Suojoki, I. Tabus Nonlinear Filter Based Normalization Techniques For Sonar Detection. In *NSIP01*, Baltimore, Maryland, USA, June 3-6, 2001.