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Ritverk

Bók:

J.A. Benediktsson and P. Ghamisi, *Spectral-Spatial Classification of Hyperspectral Remote Sensing Images*, Artech House, Boston, 2015.

Greinar í ritrýndum alþjóðlegum tímaritum:

- (1) D. Liu, E. Wang, Y. Pan, L. Wang, J.A. Benediktsson, J. Wang, and D. Lei, "Pansharpening Based on Multimodal Texture Correction and Adaptive Edge Detail FusionOpens in a new tab, *Remote Sensing*, Vol. 16, Article No. 2941, 2024
- (2) D. Hong *et al.*, "SpectralGPT: Spectral Remote Sensing Foundation Model," in *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 46, no. 8, pp. 5227-5244, Aug. 2024, doi: 10.1109/TPAMI.2024.3362475.
- (3) Z. Lv, P. Zhang, W. Sun, T. Lei, J. A. Benediktsson and P. Li, "Sample Iterative Enhancement Approach for Improving Classification Performance of Hyperspectral Imagery," in *IEEE Geoscience and Remote Sensing Letters*, vol. 21, pp. 1-5, 2024, Art no. 2500605, doi: 10.1109/LGRS.2023.3348093.
- (4) Z. Ye, L. Zhang, C. Zheng, J. Peng and J. A. Benediktsson, "Small-Sample Classification for Hyperspectral Images With EPF-Based Smooth Ordering," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 62, pp. 1-14, 2024, Art no. 5525814, doi: 10.1109/TGRS.2024.3436821.
- (5) Z. Lv, P. Zhang, L. Xie, J. A. Benediktsson and T. Lei, "Iterative Sample Generation and Balance Approach for Improving Hyperspectral Remote Sensing Imagery Classification with Deep Learning Network," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 62, pp. 1-13, 2024, Art no. 5524413, doi: 10.1109/TGRS.2024.3432792.
- (6) J. Senthilnath, G. Nagaraj, S.C. Shima, S. Kulkarni, M. Thapa, M. Indiramma, and J.A. Benediktsson, "DRBM-ClustNet: A Deep Restricted Boltzmann–Kohonen Architecture for Data Clustering," *IEEE Transactions on Neural Networks and Learning Systems*, Vol. 35, pp. 2560-2574, 2024, doi: 10.1109/TNNLS.2022.3190439.
- (7) Z. Lv, H. Huang, W. Sun, M. Jia, J. A. Benediktsson and F. Chen, "Iterative Training Sample Augmentation for Enhancing Land Cover Change Detection Performance With Deep Learning Neural Network," in *IEEE Transactions on Neural Networks and Learning Systems*, doi: 10.1109/TNNLS.2023.3282935.
- (8) X. Zhao, J. A. Benediktsson, Y. Yang, K. -S. Chen and M. Ö. Úlfarsson, "Exploring Transformer-Based Direction-of-Arrival Estimation Over Sea Surface: A BERT Approach With Physics-Based Loss Function," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 62, pp. 1-13, 2024, Art no. 2006013, doi: 10.1109/TGRS.2024.3440224.

- (9) C. Yang, X. Zhang, L. Bruzzone, B. Liu, D. Liu, X. Ren, J.A. Benediktsson, Y. Liang, B. Yang, M. Yin, H. Zhao, R. Guan, C. Li, Z. Ouyang, "Comprehensive mapping of lunar surface chemistry by adding Chang'e 5 samples with deep learning," *Nature Communications, Open Access*, Volume 14, Article number 7554, 2023.
- (10) A. Farshian, M. Götz, G. Cavallaro, C. Debus, M. Nießner, J. A. Benediktsson, and A. Streit, "Deep-Learning-Based 3-D Surface Reconstruction—A Survey," *Proceedings of the IEEE*, vol. 111, no. 11, pp. 1464-1501, Nov. 2023, doi: 10.1109/JPROC.2023.3321433.
- (11) X. Yue, D. Liu, L. Wang, J.A. Benediktsson, L. Meng and L. Deng, IESRGAN: Enhanced U-Net Structured Generative Adversarial Network for Remote Sensing Image Super-Resolution Reconstruction, *Remote Sensing*, 2023, 15(14), 3490; <https://doi.org/10.3390/rs15143490>
- (12) L. Meng, D. Liu, L. Wang, J.A. Benediktsson, X. Yue, and Y. Pan, "Augmented GBM Nonlinear Model to Address Spectral Variability for Hyperspectral Unmixing," *Remote Sensing* 2023, 15(12), 3205; <https://doi.org/10.3390/rs15123205>
- (13) Z. Lv, P. Zhang, W. Sun, T. Lei, J. A. Benediktsson and P. Li, "Sample Iterative Enhancement Approach for Improving Classification Performance of Hyperspectral Imagery," *IEEE Geoscience and Remote Sensing Letters*, vol. 21, pp. 1-5, 2024, Art no. 2500605, doi: 10.1109/LGRS.2023.3348093.
- (14) Z. Lv, J. Liu, W. Sun, T. Lei, J. A. Benediktsson and X. Jia, "Hierarchical Attention Feature Fusion-Based Network for Land Cover Change Detection With Homogeneous and Heterogeneous Remote Sensing Images," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 61, pp. 1-15, 2023, Art no. 4411115, doi: 10.1109/TGRS.2023.3334521
- (15) Z. Lv, M. Zhang, W. Sun, J. A. Benediktsson, T. Lei and N. Falco, "SpatialContextual Information Utilization Framework for Land Cover Change Detection With Hyperspectral Remote Sensed Images," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 61, pp. 1-11, 2023, Art no. 4411911, doi: 10.1109/TGRS.2023.3336791.
- (16) Z. Lv, H. Huang, W. Sun, T. Lei, J. A. Benediktsson and J. Li, "Novel Enhanced UNet for Change Detection Using Multimodal Remote Sensing Image," in *IEEE Geoscience and Remote Sensing Letters*, vol. 20, pp. 1-5, 2023, Art no. 2505405, doi: 10.1109/LGRS.2023.3325439.
- (17) Z. Lv, P. Zhang, W. Sun, J. A. Benediktsson and T. Lei, "Novel Land-Cover Classification Approach with Nonparametric Sample Augmentation for Hyperspectral Remote-Sensing Images," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 61, pp. 1-13, 2023, Art no. 4407613, doi: 10.1109/TGRS.2023.3309949.
- (18) Z. Lv, H. Huang, W. Sun, M. Jia, J. A. Benediktsson and F. Chen, "Iterative Training Sample Augmentation for Enhancing Land Cover Change Detection Performance with Deep Learning Neural Network," in *IEEE Transactions on Neural Networks and Learning Systems*, doi: 10.1109/TNNLS.2023.3282935.
- (19) Z. Lv, P. Zhang, W. Sun, J. A. Benediktsson, J. Li and W. Wang, "Novel Adaptive Region Spectral–Spatial Features for Land Cover Classification With

- High Spatial Resolution Remotely Sensed Imagery," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 61, pp. 1-12, 2023, Art no. 5609412,
- (20) Z. Lv, P. Zhong, W. Wang, Z. You, J. A. Benediktsson and C. Shi, "Novel Piecewise Distance Based on Adaptive Region Key-Points Extraction for LCCD With VHR Remote-Sensing Images," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 61, pp. 1-9, 2023, Art no. 5607709, doi: 10.1109/TGRS.2023.3268038.
 - (21) Y. Pan, D. Liu, L. Wang, S. Xing, D. Liu, L. Wang, S. Xing, and J.A. Benediktsson, "A Multispectral and Panchromatic Images Fusion Method Based on Weighted Mean Curvature Filter Decomposition," *Applied Sciences* 8767, 12(17), 2024.
 - (22) Y. Pan, D. Liu, L. Wang, J.A. Benediktsson, and S. Xing, "A Pan-Sharpener Method with Beta-Divergence Non-Negative Matrix Factorization in Non-Subsampled Shear Transform Domain," *Remote Sensing*, 2021, 14(12), 2022.
 - (23) F. Xiao, L. Tong, Y., Li, S. Luo, and J.A. Benediktsson, "A General Spline-Based Method for Centerline Extraction from Different Segmented Road Maps in Remote Sensing Imagery," *Remote Sensing*, 14(9), 2074, 2022.
 - (24) Z. Lv, T. Liu, J.A. Benediktsson, and N. Falco, "Land Cover Change Detection Techniques: Very-high-resolution optical images: A review," *IEEE Geoscience and Remote Sensing Magazine*, 10(1), pp. 44–63, 2022.
 - (25) Z. Lv, H. Huang, X. Li, M. Zhao, J.A. Benediktsson, W. Sun, and N. Falco, "Land Cover Change Detection With Heterogeneous Remote Sensing Images: Review, Progress, and Perspective," *Proceedings of the IEEE*, vol. 110, no. 12, pp. 1976-1991, Dec. 2022, doi: 10.1109/JPROC.2022.3219376. 2022
 - (26) Z. Lv, F. Wang, W. Sun, Z. You, N. Falco and J. A. Benediktsson, "Landslide Inventory Mapping on VHR Images via Adaptive Region Shape Similarity," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1-11, 2022, Art no. 5630211, doi: 10.1109/TGRS.2022.3204834.
 - (27) Z. Lv, F. Wang, G. Cui, J. A. Benediktsson, T. Lei and W. Sun, "Spatial-Spectral Attention Network Guided With Change Magnitude Image for Land Cover Change Detection Using Remote Sensing Images," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1-12, 2022, Art no. 4412712, doi: 10.1109/TGRS.2022.3197901.
 - (28) B. Zhao, H. I. Ragnarsson, M. O. Ulfarsson, G. Cavallaro and J. A. Benediktsson, "Predicting Classification Performance for Benchmark Hyperspectral Datasets," in *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 15, pp. 4180-4193, 2022, doi: 10.1109/JSTARS.2022.3173893.
 - (29) Z. Lv, H. Huang, L. Gao, J. A. Benediktsson, M. Zhao and C. Shi, "Simple Multiscale UNet for Change Detection With Heterogeneous Remote Sensing Images," in *IEEE Geoscience and Remote Sensing Letters*, vol. 20, pp. 1-5, 2023, Art no. 2505405, Art no. 2504905, doi: 10.1109/LGRS.2022.3173300.
 - (30) Z. Lv, X. Yang, X. Zhang and J. A. Benediktsson, "Object-Based Sorted-Histogram Similarity Measurement for Detecting Land Cover Change With VHR Remote Sensing Images," in *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, 2022, Art no. 2504405, doi: 10.1109/LGRS.2022.3163169.
 - (31) W. Song, Z. Gao, R. Dian, P. Ghamisi, Y. Zhang and J. A. Benediktsson, "Asymmetric Hash Code Learning for Remote Sensing Image Retrieval,"

- in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1-14, 2022, Art no. 5617514, doi: 10.1109/TGRS.2022.3143571.
- (32) J. Senthilnath, A. Kumar, A. Jain, K. Harikumar, M. Thapa, S. Suresh, G. Anand and J.A. Benediktsson, "BS-McL: Bilevel Segmentation Framework With Metacognitive Learning for Detection of the Power Lines in UAV Imagery," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1-12, 2022, Art no. 5604712, doi: 10.1109/TGRS.2021.3076099.
- (33) Z. Lv, G. Li, J. Yan, J. A. Benediktsson and Z. You, "Training Samples Enriching Approach for Classification Improvement of VHR Remote Sensing Image," in *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, 2022, Art no. 6002405, doi: 10.1109/LGRS.2021.3067927.
- (34) Z. Lv, T. Liu, R. Y. Wang, J. A. Benediktsson and S. Saha, "Automatic Landslide Inventory Mapping Approach Based on Change Detection Technique With Very-High-Resolution Images," in *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, 2022, Art no. 6000805, doi: 10.1109/LGRS.2020.3041409.
- (35) Z. Lv, T. Liu, J. A. Benediktsson and N. Falco, "Land Cover Change Detection Techniques: Very-High-Resolution Optical Images: A Review," in *IEEE Geoscience and Remote Sensing Magazine*, doi: 10.1109/MGRS.2021.3088865, 2022.
- (36) D. Wen, X. Huang, F. Bovolo, J. Li, X. Ke, A. Zhang, and J. A. Benediktsson, "Change Detection From Very-High-Spatial-Resolution Optical Remote Sensing Images: Methods, applications, and future directions," *IEEE Geoscience and Remote Sensing Magazine*, doi: 10.1109/MGRS.2021.3063465, 2022.
- (37) Z. Lv, F. Wang, T. Liu, X. Kong and J. A. Benediktsson, "Novel Automatic Approach for Land Cover Change Detection by Using VHR Remote Sensing Images," *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, Art no. 8016805, doi: 10.1109/LGRS.2021.3095676, 2022.
- (38) Z. Lv, F. Wang, L. Xie, W. Sun, N. Falco, and Z. You, "Diagnostic Analysis on Change Vector Analysis Methods for LCCD Using Remote Sensing Images," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 14, pp. 10199-10212, doi: 10.1109/JSTARS.2021.3115481, 2021.
- (39) X. Wang, A.A.F. Saif, D. Liu, Y. Zhu, and J.A. Benediktsson, "A novel optimal multi-pattern matching method with wildcards for DNA sequence," *Technology and Health Care*, 29(S1), pp. S115–S124, 2021.
- (40) Z. Lv, G. Li, J. Yan, J.A. Benediktsson, „Adaptive region-based post-classification framework for land-cover mapping improvement using very high spatial resolution optical imagery,” *Journal of Applied Remote Sensing*, 15 (1), art. no. 014524, DOI: 10.1117/1.JRS.15.014524, 2021.
- (41) J. Senthilnath, S. Kulkarni, X.S. Yang, and J.A. Benediktsson, "FPA clust: Evaluation of the flower pollination algorithm for data clustering," *Evolutionary Intelligence*, 14(3), pp. 1189–1199, 2021
- (42) Z. Ye, T. Qian, L. Zhang, L. Dai, H. Li, and J.A. Benediktsson, "Functional Feature Extraction for Hyperspectral Image Classification with Adaptive Rational Function Approximation," *IEEE Trans. on Geoscience and Remote Sensing*, vol. 59, no. 9, pp. 7680-7694, doi: 10.1109/TGRS.2021.3052807. 2021.
- (43) J. A. Benediktsson and Z. Wu, "Distributed Computing for Remotely Sensed Data Processing [Scanning the Section]," *Proceedings of the IEEE*, vol. 109, no. 8, pp. 1278-1281, doi: 10.1109/JPROC.2021.3094335, Aug. 2021.

- (44) X. Huang, S. Li, J. Li, X. Jia, J. Li, and J.A. Benediktsson, "A Multispectral and Multiangle 3-D Convolutional Neural Network for the Classification of ZY-3 Satellite Images Over Urban Areas," vol. 59, no. 12, pp. 10266-10285, Dec. 2021, doi: 10.1109/TGRS.2020.3037211, *IEEE Transactions on Geoscience and Remote Sensing*, 2021.
- (45) Z. Lv, T. Liu, R. Wang, J.A. Benediktsson, S. Saha, "Automatic Landslide Inventory Mapping Approach Based on Change Detection Technique With Very-High-Resolution Images," *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, 2022, Art no. 6000805, doi: 10.1109/LGRS.2020.3041409, 2021
- (46) Z. Lv, T. Liu, C. Shi, and J.A. Benediktsson, "Local Histogram-Based Analysis for Detecting Land Cover Change Using VHR Remote Sensing Images," *IEEE Geoscience and Remote Sensing Letters*, vol. 18, no. 7, pp. 1284-1287, July 2021, doi: 10.1109/LGRS.2020.2998684, 2021.
- (47) W. Song, S. Li and J.A. Benediktsson, "Deep Hashing Learning for Visual and Semantic Retrieval of Remote Sensing Images," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 59, no. 11, pp. 9661-9672, Nov. 2021, doi: 10.1109/TGRS.2020.3035676, 2021
- (48) Z. Wu, J. Sun, Y. Zhang, Y. Zhu, J. Li, A. Plaza, J.A. Benediktsson and Z. Wei, "Scheduling-Guided Automatic Processing of Massive Hyperspectral Image Classification on Cloud Computing Architectures," vol. 51, no. 7, pp. 3588-3601, July 2021, doi: 10.1109/TCYB.2020.3026673, *IEEE Transactions on Cybernetics*, 2021
- (49) Z. Lv, G. Li, Z. Jin, J.A. Benediktsson and G.M. Foody, "Iterative Training Sample Expansion to Increase and Balance the Accuracy of Land Classification From VHR Imagery," *IEEE Transactions on Geoscience and Remote Sensing*, 139-150, Vol. 59, 2021.
- (50) C. Yang, H. Zhao, L. Bruzzone, J.A. Benediktsson, Y. Liang, B. Liu, X. Zeng, R. Guan, C. Li and Z. Ouyang, "Lunar impact crater identification and age estimation with Chang'E data by deep and transfer learning," *Nature Communications*, Vol. 11, Article number: 6358, 2020.
- (51) B. Rasti, D. Hong, R. Hang, P. Ghamisi, X. Kang, J. Chanussot and J.A. Benediktsson, "Feature Extraction for Hyperspectral Imagery: The Evolution From Shallow to Deep: Overview and Toolbox," *IEEE Geoscience and Remote Sensing Magazine*, Vol. 8, pp. 60-88, 2020.

- (52) Z. Lv, T. Liu and J.A. Benediktsson, "Object-Oriented Key Point Vector Distance for Binary Land Cover Change Detection Using VHR Remote Sensing Images," *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 59, pp. 6524-6533, 2020.
- (53) D. Liu, L. Wang and J.A. Benediktsson, "An Object-Oriented Color Visualization Method with Controllable Separation for Hyperspectral Imagery," *Applied Sciences*, 10(10), 3581, 2020.
- (54) F. Kizel and J.A. Benediktsson, "Spatially Enhanced Spectral Unmixing Through Data Fusion of Spectral and Visible Images from Different Sensors," *Remote Sensing*, 12(8), 1255, 2020.
- (55) J. Sentilnath, N. Varia, A. Dokania, G. Anand and J.A. Benediktsson, Deep TEC: Deep Transfer Learning with Ensemble Classifier for Road Extraction from UAV Imagery, *Remote Sensing*, 12(2), 245, 2020.
- (56) Z. Lv, T. Li, X. Kong, C. Shi and J.A. Benediktsson, "Landslide Inventory Mapping with Bitemporal Aerial Remote Sensing Images Based on the Dual-Path Fully Convolutional Network," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Vol. 13, pp. 4745-4784, 2020.
- (57) Z. Ye, J. Chen, H. Li, Y. Wei, G. Xiao and J.A. Benediktsson, "Supervised Functional Data Discriminant Analysis for Hyperspectral Image Classification," *IEEE Trans. on Geoscience and Remote Sensing*, Vol. 58, No. 2, pp. 841-851, 2020.
- (58) B. Rasti, P. Ghamisi and J. A. Benediktsson, "Hyperspectral Mixed Gaussian and Sparse Noise Reduction," *IEEE Geoscience and Remote Sensing Letters*, Vol 17, pp. 474 – 478, 2020.
- (59) B. Rasti, P. Ghamisi and J. A. Benediktsson, "Hyperspectral Mixed Gaussian and Sparse Noise Reduction," *IEEE Geoscience and Remote Sensing Letters*, 2020.
- (60) Z. Ye, J. Chen, H. Li, Y. Wei, G. Xiao and J. A. Benediktsson, "Supervised Functional Data Discriminant Analysis for Hyperspectral Image Classification," in *IEEE Transactions on Geoscience and Remote Sensing*, 2020.
- (61) B. Zhang, Z. Chen, D. Peng, J.A. Benediktsson, B. Liu, L. Zou, J. Li and A. Plaza, "Remotely sensed big data: evolution in model development for information extraction [point of view]," *Proceedings of the IEEE*, Vol. 107, pp. 2294 – 2301, 2019.
- (62) P. Ghamisi, B. Rasti, and J.A. Benediktsson, "Multisensor Composite Kernels Based on Extreme Learning Machines," *IEEE Geoscience and Remote Sensing Letters*, Vol.16, pp. 196-200, 2019.
- (63) J. Sentilnath, R. Rajendra, S. Suresh, S. Kulkarni, and J.A. Benediktsson, "Hierarchical clustering approaches for flood assessment using multi-sensor satellite images," *International Journal of Image and Data Fusion*, Vol. 10, pp. 28-44., 2019.
- (64) Y. Zhang, X. Kang, S. Li, P. Duan, and J.A. Benediktsson, "Feature Extraction from Hyperspectral Images using Learned Edge Structures," *Remote Sensing Letters*, Vol. 10, pp. 244-253, 2019.

- (65) P. Duan, X. Kang, S. Li, P. Ghamisi, and J.A. Benediktsson, "Fusion of multiple edge-preserving operations for hyperspectral image classification," *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 57, pp. 10336-10349, 2019.
- (66) Z.Y. Lv, T.F. Liu, P. Zhang, J.A. Benediktsson, T. Lei, X. Zhang, "Novel adaptive histogram trend similarity approach for land cover change detection by using bitemporal very-high-resolution remote sensing images," *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 57, pp. 9554-9574, 2019.
- (67) Z. Lv, G. Li, Y. Chen, J.A. Benediktsson, Novel multi-scale filter profile-based framework for VHR remote sensing image classification, *Remote Sensing*, Vol. 11, 2019.
- (68) Y. Guo, X. Jia, D. Paull, and J.A. Benediktsson, "Nomination-favoured opinion pool for optical-SAR-synergistic rice mapping in face of weakened flooding signals," *ISPRS Journal of Photogrammetry and Remote Sensing*, Vol. 155, pp. 187-205, 2019.
- (69) Y. Chen, K. Zhu, K., L. Zhu, X. He, P., Ghamisi, and J.A. Benediktsson, "Automatic design of convolutional neural network for hyperspectral image classification," *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 57, pp. 7048-7066. 2019.
- (70) S. Li, W. Song, L. Fang, Y. Chen, P. Ghamisi, and J.A. Benediktsson, "Deep learning for hyperspectral image classification: An overview," *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 57, pp. 6690-6709, 2019.
- (71) Z.Y. Lv, G.F. Li, J.A. Benediktsson, Z. Zhang, and J.X. Yan, "Training sample refining method using an adaptive neighbor to improve the classification performance of very high-spatial resolution remote sensing images," *Journal of Applied Remote Sensing*, Vol. 13 art. no. 036501, 2019.
- (72) B. Tu, X. Zhang, X. Kang, J. Wang, and J.A. Benediktsson, "Spatial Density Peak Clustering for Hyperspectral Image Classification with Noisy Labels," *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 57, 2019.
- (73) J. Li, X. Huang, T. Hu, X. Jia, and J.A. Benediktsson, "A novel unsupervised sample collection method for urban land-cover mapping using Landsat imagery," *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 57, pp. 3933-3951, 2019.
- (74) Y. Zhang, X. Kang, S. Li, P. Duan, and J.A. Benediktsson, "Feature extraction from hyperspectral images using learned edge structures," *Remote Sensing Letters*, Vol. 10, pp. 244-253, 2019.
- (75) L. Fang, G. Liu, S. Li, P. Ghamisi, and J.A. Benediktsson, "Hyperspectral Image Classification With Squeeze Multibias Network," *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 57, pp. 1291-1301, 2019.
- (76) P. Ghamisi, B. Rasti, N. Yokoya, Q. Wang, B. Hofle, L. Bruzzone, F. Bovolo, M. Chi, K. Anders, R. Gloaguen, P.M. Atkinson, and J.A. Benediktsson, "Multisource and multitemporal data fusion in remote sensing: A comprehensive review of the state of the art," *IEEE Geoscience and Remote Sensing Magazine*, 7, pp. 6-39. 2019.

- (77) K. Zhu, Y. Chen, P. Ghamisi, X. Jia, and J.A. Benediktsson, "Deep convolutional capsule network for hyperspectral image spectral and spectral-spatial classification," *Remote Sensing*, Vol. 11 art. no. 223, 2019.
- (78) Z. Zheng, J. Cao, Z. Lv, and J.A. Benediktsson, Spatial-spectral feature fusion coupled with multi-scale segmentation voting decision for detecting land cover change with VHR remote sensing images, *Remote Sensing*, Vol. 11, art. no. 1903, 2019.
- (79) J. Senthilnath, S. Kulkarni, S Suresh, X.S. Yang, and J.A. Benediktsson, "FPA clust: evaluation of the flower pollination algorithm for data clustering," *Evolutionary Intelligence*, 2019.
- (80) Z. Lv, T. Liu, C. Shi, J.A. Benediktsson, and H. Du, "Novel Land Cover Change Detection Method Based on k-Means Clustering and Adaptive Majority Voting Using Bitemporal Remote Sensing Images," *IEEE Access*, 7, art. no. 8611086, pp. 34425-34437, 2019.
- (81) O.K.Vilmundardóttir, F.S. Sigurmundsson, G.B. Møller Pedersen, J.M.-C. Belart, F. Kizel, N. Falco, J.A. Benediktsson, and G. Gísladóttir, "Of mosses and men: Plant succession, soil development and soil carbon accretion in the sub-Arctic volcanic landscape of Hekla, Iceland," *Progress in Physical Geography*, vol. 42, pp. 765-791, 2018.
- (82) Z. Lv, T. Liu, J.A. Benediktsson, T. Lei, and Y.L. Wan, "Multi-scale object histogram distance for LCCD using bi-temporal very-high-resolution remote sensing images," *Remote Sensing*, vol. 10, art. no. 1809, 2018.
- (83) F. Cao, Z. Yang, J. Ren, W.-K. Ling, H. Zhao, M. Sun, and J.A. Benediktsson, "Sparse Representation-Based Augmented Multinomial Logistic Extreme Learning Machine with Weighted Composite Features for Spectral-Spatial Classification of Hyperspectral Images," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 56 (11), pp. 6263-6279, 2018.
- (84) X. Kang, P. Duan, X. Xiang, S. Li, and J.A. Benediktsson, "Detection and Correction of Mislabeled Training Samples for Hyperspectral Image Classification," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 56, pp. 5673-5686, 2018.
- (85) L. Zhu, Y. Chen, P. Ghamisi, and J.A. Benediktsson, "Generative Adversarial Networks for Hyperspectral Image Classification," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 56, pp. 5046-5063, 2018.
- (86) S. Li, Q. Hao, X. Kang, and J.A. Benediktsson, "Gaussian Pyramid Based Multiscale Feature Fusion for Hyperspectral Image Classification," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 11 pp. 3312-3324, 2018.
- (87) P. Ghamisi, E. Maggiori, S. Li, R. Souza, Y. Tarablaka, and G. Moser, A. De Giorgi, L. Fang, Y. Chen, M. Chi, S.B. Serpico, and J.A. Benediktsson, "New Frontiers in Spectral-Spatial Hyperspectral Image Classification: The Latest Advances Based on Mathematical Morphology, Markov Random Fields, Segmentation, Sparse Representation, and Deep Learning," *IEEE Geoscience and Remote Sensing Magazine*, vol. 6, pp. 10-43, 2018.

- (88) X. Kang, P. Duan, S. Li, and J.A. Benediktsson, “Decolorization-based hyperspectral image visualization,” *IEEE Transactions on Geoscience and Remote Sensing*, vol. 56, pp. 4346-4360, 2018.
- (89) X. Huang, T. Hu, J. Li, Q. Wang, and J.A. Benediktsson, “Mapping urban areas in China using multisource data with a novel ensemble SVM method,” *IEEE Transactions on Geoscience and Remote Sensing*, vol. 56, pp. 4258-4273, 2018.
- (90) G. Cui, Z. Lv, G. Li, and J.A. Benediktsson, and Y. Lu, “Refining land cover classification maps based on dual-adaptive majority voting strategy for very high resolution remote sensing images,” *Remote Sensing*, vol. 10, art. no. 1238, 2018..
- (91) Z. Lv., T. Liu, P. Zhang, J.A. Benediktsson, and Y. Chen, “Land cover change detection based on adaptive contextual information using bi-temporal remote sensing images,” *Remote Sensing*, vol. 10, art. no. 901, 2018.
- (92) F. Kizel, J.A. Benediktsson, L. Bruzzone, G.B.M. Pedersen, O.K. Vilmundardottir, and N. Falco, “Simultaneous and constrained calibration of multiple hyperspectral images through a new generalized empirical line model,” *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 11, pp. 2047-2057, 2018.
- (93) Z. Lv, W. Shi, X. Zhang, and J.A. Benediktsson, “Landslide Inventory Mapping from Bitemporal High-Resolution Remote Sensing Images Using Change Detection and Multiscale Segmentation,” *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 11, pp. 1520-1532, 2018.
- (94) T. Qiao, Z. Yang, J. Ren, P. Yuen, H. Zhao, G. Sun, S. Marshall, and J.A. Benediktsson, “Joint bilateral filtering and spectral similarity-based sparse representation: A generic framework for effective feature extraction and data classification in hyperspectral imaging,” *Pattern Recognition*, vol. 77, pp. 316-328, 2018..
- (95) W. Fu, S. Li, L. Fang, and J.A. Benediktsson, “Contextual Online Dictionary Learning for Hyperspectral Image Classification,” *IEEE Transactions on Geoscience and Remote Sensing*, vol. 56, pp. 1336-1347, 2018.
- (96) L. Fang, N. He, S. Li, P. Ghamisi, and J.A. Benediktsson, “Extinction Profiles Fusion for Hyperspectral Images Classification,” *IEEE Transactions on Geoscience and Remote Sensing*, vol. 56, pp. 1803-1815, 2018.
- (97) Z. Lv, T. Liu, Y. Wan, J.A. Benediktsson, and X. Zhang, “Post-processing approach for refining raw land cover change detection of very high-resolution remote sensing images,” *Remote Sensing*, vol. 10, art. no. 472, 2018.
- (98) Pedersen, G.B.M., Belart, J.M.C., Magnússon, E., Vilmundardóttir, O.K., Kizel, F., Sigurmundsson, F.S., Gísladóttir, G., Benediktsson, J.A., “Hekla Volcano, Iceland, in the 20th Century: Lava Volumes, Production Rates, and Effusion Rates,” *Geophysical Research Letters*, vol. 45, pp. 1805-1813, 2018.
- (99) Z. Huang, S. Li, L. Fang, H. Li, and J.A. Benediktsson, Hyperspectral Image Denoising with Group Sparse and Low-Rank Tensor Decomposition, *IEEE Access*, vol. 6, pp. 1380-1390, 2018.

- (100) X. Kang, X. Xiang, S. Li, and J.A. Benediktsson, "Extended Random Walker for Shadow Detection in Very High Resolution Remote Sensing Images," *IEEE Trans. Geoscience and Remote Sensing*, vol. 56, pp. 867-876, 2018.
- (101) F. Kizel, M. Shoshani, N.S. Nathanyahu, G. Even-Tzur, and J.A. Benediktsson, "A Stepwise Analytical Projected Gradient Descent Search for Hyperspectral Unmixing and its Code Vectorization," *IEEE Trans. Geoscience and Remote Sensing*, vol. 55, pp. 4925-4943, 2017.
- (102) T. Lu, S. Li, L. Fang, X. Jia and J.A. Benediktsson, "From Subpixel to Superpixel: A Novel Fusion Framework for Hyperspectral Image Classification" *IEEE Trans. Geoscience and Remote Sensing*, vol. 55, pp. 4398-4943, 2017.
- (103) Z. Lv, W. Shi, X. Zhou, and J.A. Benediktsson, "Semi-Automatic System for Land Cover Change Detection Using Bi-Temporal Remote Sensing Images," *Remote Sensing*, vol. 9, 1112, 2017
- (104) L. Fang, C. Wang, S. Li, and J.A. Benediktsson, "Hyperspectral Image Classification via Multiple-Feature-Based Adaptive Sparse Representation," *IEEE Trans. Instrumentation and Measurement*, vol. 66, pp. 607-616, 2017.
- (105) X. Kang, X. Xiang, S. Li, and J.A. Benediktsson, "PCA-Based Edge-Preserving Features for Hyperspectral Image Classification," *IEEE Trans. Geoscience and Remote Sensing*, vol. 55, pp. 7140 - 7151, DOI: 10.1109/TGRS.2017.2743102, 2017.
- (106) Y. Gu, J. Chanussot, X. Jia, and J.A. Benediktsson, "Multiple Kernel Learning for Hyperspectral Image Classification: A Review," *IEEE Trans. Geoscience and Remote Sensing*, vol. 55, pp. 6547-6566, 2017.
- (107) X. Kang, X. Zhang, S. Li, K. Li, J. Li, and J.A. Benediktsson, "Hyperspectral Anomaly Detection With Attribute and Edge-Preserving Filters," *IEEE Trans. Geoscience and Remote Sensing*, vol. 55, pp. 5600 - 5611, 2017.
- (108) G. Cavallaro, N. Falco, M. Dalla Mura, and J.A. Benediktsson, "Automatic Attribute Profiles," *IEEE Trans. on Image Processing*, vol. 26, pp. 1859-1872, 2017.
- (109) A. Plaza, J.A. Benediktsson, J. Li, T. Yang and B. Tang, "Spatial Technology and Social Media – Scanning the issue," *Proceedings of the IEEE*, Vol. 105, pp. 1851-1854, 2017.
- (110) J. Li, J.A. Benediktsson, B. Zhang, T. Yang, and A. Plaza, "Spatial Technology and Social Media in Remote Sensing: A Survey," *Proceedings of the IEEE*, vol. 105, pp. 1855 – 1864, 2017
- (111) J. Xia, N. Falco, J.A. Benediktsson, P. Du and J. Chanussot, "Hyperspectral Image Classification with Rotation Random Forest," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 10, pp. 1601-1609, 2017.
- (112) Z. Lv, X. Zhang, and J.A. Benediktsson, "Developing a general post-classification framework for land-cover mapping improvement using high-spatial-resolution remote sensing imagery," *Remote Sensing Letters*, vol. 8, 607-616, 2017.

- (113) Z. Lv, X. Zhang, and J.A. Benediktsson, "Automatic Object-Oriented, Spectral-Spatial Feature Extraction Driven by Tobler's First Law of Geography for Very High Resolution Aerial Imagery Classification," *Remote Sensing*, vol. 9, 285; doi:10.3390/rs9030285, 2017.
- (114) J. Li, J.A. Benediktsson, J. Li, T. Yang, B. Tang and A. Plaza, "Spatial Technology and Social Media in Remote Sensing – Point of View," *Proceedings of the IEEE*, Vol. 105, pp. 1583-1585, 2017.
- (115) D. Liu, L. Wang, and J.A. Benediktsson, "Interactive Multi-Image Colour Visualization for Hyperspectral Imagery," *International Journal of Remote Sensing*, vol. 38, pp. 1062-1082, 2017.
- (116) S. Liu, M. Chi, Y. Zhu, J.A. Benediktsson and A.J. Plaza, "Oil Spill Detection via Multitemporal Optical Remote Sensing Images: A Change Detection Perspective," *IEEE Geoscience and Remote Sensing Letters*, vol. 14, pp. 324-328, 2017.
- (117) G. Cano, J. Garcia-Rodriguez, A. Garcia-Garcia, H. Perez-Sanchez, J.A. Benediktsson, A. Thapa, and A. Barr, "Automatic Selection of Molecular Descriptors Using Random Forest: Application to Drug Discovery," *Expert Systems with Application*, Vol. 72, pp. 151-159, 2017.
- (118) Z. Ye, H. Li, Y. Song, J.A. Benediktsson, and Y.Y. Tang, "Hyperspectral Image Classification Using Principal Components-Based Smooth Ordering and Multiple 1-D Interpolation," *IEEE Trans. Geoscience and Remote Sensing*, Vol. 55, pp. 1199-1209, 2017.
- (119) W. Fu, S. Li, L. Fang, and J.A. Benediktsson, "Adaptive Spectral-Spatial Compression of Hyperspectral Image With Sparse Representation," *IEEE Trans. Geoscience and Remote Sensing*, Vol. 55, pp. 671-682, 2017.
- (120) B. Sun, X. Kang, S. Li, and J.A. Benediktsson, "Random-Walker-Based Collaborative Learning for Hyperspectral Image Classification," *IEEE Trans. Geoscience and Remote Sensing*, Vol. 55, pp. 212-222, 2017.
- (121) T. Qiao, J. Ren, S. Wang, J. Zabalza, M. Sun, H. Zhao, S. Li, J.A. Benediktsson, Q. Dai, and S. Marshall, "Effective Denoising and Classification of Hyperspectral Images Using Curvelet Transform and Singular Spectrum Analysis," *IEEE Trans. Geoscience and Remote Sensing*, Vol. 55, pp. 119-133, 2017.
- (122) H. Yu, L. Gao, J. Li, S.S. Li, B. Zhang and J.A. Benediktsson, "Spectral-Spatial Hyperspectral Image Classification Using Subspace-Based Support Vector Machines and Adaptive Markov Random Fields," *Remote Sensing*, Vol. 8, no. 4, 355; doi:10.3390/rs8040355, 2016.
- (123) S. Haykin, V. Tresp and J.A. Benediktsson, "Big Data: Practical Applications – Scanning the issue," *Proceedings of the IEEE*, Vol. 104, pp. 2082-2084, 2016.
- (124) M. Chi, A. Plaza, J.A. Benediktsson, Y. Sun, J. Shen, and Y. Zhu, "Big Data for Remote Sensing: Challenges and Opportunities," *Proceedings of the IEEE*, Vol. 104, pp. 2207 - 2219, 2016. Z. Ye, H. Li, Y. Song, J. Wang, and J.A. Benediktsson, "A novel semi-supervised learning framework for hyperspectral image classification," *IJWMIIP*, vol. 14, 2016.

- (125) J. Xia, N. Falco, J.A. Benediktsson, J. Chanussot, and P. Du, "Class-Separation-Based Rotation Forest for Hyperspectral Image Classification," *IEEE Geosci. Remote Sensing Lett.* Vol. 13, pp. 584-588, 2016.
- (126) J. Senthilnath, S. Kulkarni, J.A. Benediktsson, and X. S. Yang, "A Novel Approach for Multispectral Satellite Image Classification Based on the Bat Algorithm." *IEEE Geosci. Remote Sensing Lett.* Vol. 13, pp. 599-603, 2016.
- (127) J. Liu, Z. Wu, L. Xiao, A. Plaza, and J.A. Benediktsson, "Spatial-Spectral Hyperspectral Image Classification Using Random Multiscale Representation," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 9, pp. 4129-4141, 2016. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 9, pp. 4129-4141, 2016.
- (128) Md. A. Hossain, X. Jia, and J.A. Benediktsson, "One-Class Oriented Feature Selection and Classification of Heterogeneous Remote Sensing Images," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 9, pp. 4129-4141, 2016. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 9, pp. 4129-4141, 2016.
- (129) P. Ghamisi, R. Souza, J.A. Benediktsson, L. Ritter, R. Lotufo, and X.X. Zhu, "Hyperspectral Data Classification Using Extended Extinction Profiles," *IEEE Geosci. Remote Sensing Lett.* Vol. 13, pp. 1641-1645, 2016.
- (130) S. Li, T. Lu, L. Fang, X. Jia, and J.A. Benediktsson, "Probabilistic Fusion of Pixel-Level and Superpixel-Level Hyperspectral Image Classification," *IEEE Trans. Geoscience and Remote Sensing*, Vol. 55, pp. 7416-7430, 2016.
- (131) T. Lu, S. Li, L. Fang, L. Bruzzone, and J.A. Benediktsson, "Set-to-Set Distance-Based Spectral-Spatial Classification of Hyperspectral Images," *IEEE Trans. Geoscience and Remote Sensing*, Vol. 55, pp. 7122-7134, 2016.
- (132) P. Ghamisi, R. Souza, J.A. Benediktsson, X.X. Zhu, L. Ritter, and R. Lotufo, "Extinction Profiles for Classification of Remote Sensing Data," *IEEE Trans. Geoscience and Remote Sensing*, Vol. 54, pp. 5631-5645, 2016.
- (133) T. Liu, Y. Gu, X. Jia, J.A. Benediktsson and J. Chanussot, "Class-Specific Sparse Multiple Kernel Learning for Spectral-Spatial Hyperspectral Image Classification," *IEEE Trans. Geoscience and Remote Sensing*, Vol. 54, pp. 7351-7365, 2016.
- (134) F. Palsson, J.R. Sveinsson, M.O. Ulfarsson, and J.A. Benediktsson, "MTF-Based Deblurring Using a Wiener Filter for CS and MRA Pansharpening Methods," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 9, pp. 2255-2269, 2016.
- (135) X. Huang, X. Han, L. Zhang, J. Gong, W. Liao, and J.A. Benediktsson, "Generalized Differential Morphological Profiles for Remote Sensing Image Classification," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 9, pp. 1736-1751, 2016.
- (136) Z.Y. Lv, W. Shi, J.A. Benediktsson and X. Ning, "Novel Object-Based Filter for Improving Land-Cover Classification of Aerial Imagery with Very High Spatial Resolution," *Remote Sensing*, Vol. 8, no. 12, 1023, doi:[10.3390/rs8121023](https://doi.org/10.3390/rs8121023), 2016

- (137) Z.Y Lv, H. He, J.A. Benediktsson and H. Huang, “A Generalized Image Scene Decomposition-Based System for Supervised Classification of Very High Resolution Remote Sensing Imagery,” *Remote Sensing*, Vol. 8, no. 10, 814; doi:10.3390/rs8100814, 2016
- (138) D. Wen, X. Huang, L. Zhang, and J.A. Benediktsson, “A Novel Automatic Change Detection Method for Urban High-Resolution Remotely Sensed Imagery Based on Multiindex Scene Representation,” *IEEE Trans. Geoscience and Remote Sensing*, Vol. 54, pp. 609-625, 2016.
- (139) F. Palsson, J. R. Sveinsson, M.O. Ulfarsson, and J.A. Benediktsson, “Quantitative Quality Evaluation of Pansharpened Imagery: Consistency Versus Synthesis,” *IEEE Trans. Geoscience and Remote Sensing*, Vol. 54, pp. 1247-1259, 2016.
- (140) Y. Gu, T. Liu, X. Jia, J.A. Benediktsson, and J. Chanussot, “Nonlinear Multiple Kernel Learning With Multiple-Structure-Element Extended Morphological Profiles for Hyperspectral Image Classification,” *IEEE Trans. Geoscience and Remote Sensing*, Vol. 54, pp. 3235-3247, 2016.
- (141) X. Guo, X. Huang, L. Zhang, L. Zhang, A.J. Plaza, and J.A. Benediktsson, “Support Tensor Machines for Classification of Hyperspectral Remote Sensing Imagery,” *IEEE Trans. Geoscience and Remote Sensing*, Vol. 54, pp. 3248-3264, 2016.
- (142) G. Cavallaro, M. Dalla Mura, J.A. Benediktsson, A.J. Plaza, “Remote Sensing Image Classification Using Attribute Filters Defined Over the Tree of Shapes,” *IEEE Trans. Geoscience and Remote Sensing*, vol. 54, pp. 3899-3911, 2016.
- (143) W. Fu, S. Li, L. Fang, X. Kang, and J.A. Benediktsson, “Hyperspectral Image Classification via Shape-Adaptive Joint Sparse Representation,” *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 9, pp. 556-567, 2016.
- (144) T. Lu, S. Li, L. Fang, Y. Ma, and J.A. Benediktsson, “Spectral–Spatial Spectral–Spatial Adaptive Sparse Representation for Hyperspectral Image Denoising,” *IEEE Trans. on Geoscience and Remote Sensing*, vol. 54, 373-385 2016.
- (145) G. Cavallaro, M. Riedel, M. Richerzaghien, J.A. Benediktsson and A. Plaza, “On Understanding Big Impacts in Remotely Sensed Classification Using Support Vector Machine Methods,” *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Vol. 8, pp. 4634-4646, 2015.
- (146) L. Fang, S. Li, W. Duan, J. Ren, and J.A. Benediktsson, “Classification of Hyperspectral Images by Exploiting Spectral-Spatial Information of Superpixel via Multiple Kernels,” *IEEE Trans. on Geoscience and Remote Sensing*, Vol. 53, pp. 6663-6674, 2015.
- (147) M. Dalla Mura, S. Prasad, F. Pacifici, P. Gamba, J. Chanussot, and J.A. Benediktsson, „Challenges and Opportunities of Multimodality and Data Fusion in Remote Sensing,” *Proceedings of the IEEE*, vol. 103, pp. 1585 – 1601, 2015.

- (148) Y. Gu, Q. Wang, X. Jia, and J.A. Benediktsson, "A Novel MKL Model of Integrating LiDAR Data and MSI for Urban Area Classification," *IEEE Trans. on Geoscience and Remote Sensing*, Vol. 53, pp. 5312-5326, 2015.
- (149) E.M. Sigurdsson, A. Plaza, and J.A. Benediktsson, "GPU Implementation of Iterative-Constrained Endmember Extraction from Remotely Sensed Hyperspectral Images," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Vol. 8, pp. 2939-2949, 2015.
- (150) P. Quesada-Barriuso, F. Arguello, D. Heras, and J.A. Benediktsson, "Wavelet-Based Classification of Hyperspectral Images Using Extended Morphological Profiles on Graphics Processing Units," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Vol. 8, pp. 2962-2970, 2015.
- (151) G. Cavallaro, M. Dalla Mura, J.A. Benediktsson, and L. Bruzzone "Extended Self-Dual Attribute Profiles for the Classification of Hyperspectral Images," *IEEE Geoscience and Remote Sensing Letters*, Vol. 12, 1690-1694, 2015.
- (152) P. Ghamisi, J.A. Benediktsson, and S. Phinn, "Land-cover classification using both hyperspectral and LiDAR data," *International Journal of Image and Data Fusion*, vol. 6, no. 3, pp. 189-215, 2015.
- (153) J. Senthilnath, D. Kumar, J.A. Benediktsson, and X. Zhang "A novel hierarchical clustering technique based on splitting and merging," *International Journal of Image and Data Fusion*, vol. 6, pp. 1-23, 2015.
- (154) L. Fang, S. Li, X. Kang, and J.A. Benediktsson, "Spectral-Spatial Classification of Hyperspectral Images With a Superpixel-Based Discriminative Sparse Model," *IEEE Trans. on Geoscience and Remote Sensing*, Vol. 53, pp. 4186-4201, 2015.
- (155) N. Falco, J.A. Benediktsson and L. Bruzzone, "Spectral and Spatial Classification of Hyperspectral Images With a Superpixel-Based Discriminative Sparse Model," *IEEE Trans. on Geoscience and Remote Sensing*, Vol. 53, pp. 6223-6240, 2015.
- (156) P. Ghamisi, M. S. Couceiro and J.A. Benediktsson, "A Novel Feature Selection Approach Based on FODPSO and SVM," *IEEE Trans. On Geoscience and Remote Sensing*, Vol. 53, 2935 - 2947, 2015.
- (157) P. Ghamisi, A-R Ali, M.S. Couceiro, and J.A. Benediktsson, "A Novel Evolutionary Swarm Fuzzy Clusterin Approach for Hyperspectral Imagery," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Vol. 8, pp. 2447-2456, 2015.
- (158) P. Ghamisi and J.A. Benediktsson, "Feature Selection Based on Hybridization of Genetic Algorithm and Particle Swarm Optimization," *IEEE Geoscience and Remote Sensing Letters*, Vol. 12, 309-313, 2015.
- (159) X. Kang, S. Li, L. Fang. M. Li, and J.A. Benediktsson, "Extended Random Walkers Based Classification of Hyperspectral Images," *IEEE Trans. on Geoscience and Remote Sensing*, Vol. 53, pp. 144-153, 2015.
- (160) F. Palsson, J.R. Sveinsson, M.O. Ulfarsson, and J.A. Benediktsson, "Model-Based Fusion of Multi- and Hyperspectral Images Using PCA and Wavelets," *IEEE Trans. on Geoscience and Remote Sensing*, Vol. 53, pp. 2652-2663, 2015.

- (161) P. Ghamisi, M. Dalla Mura and J.A. Benediktsson, “A Survey on Spectral–Spatial Classification Techniques Based on Attribute Profiles,” *IEEE Trans. on Geoscience and Remote Sensing*, Vol. 53, 2335-2353, 2015.
- (162) J. Li, X. Huang, P. Gamba, J. Bioucas-Dias, L. Zhang, J.A. Benediktsson and A. Plaza, “Multiple Feature Learning for Hyperspectral Image Classification,” *IEEE Trans. on Geoscience and Remote Sensing*, Vol. 53, 1592 – 1606, 2015.
- (163) M. Götz, M. Boedenstein, C. Cavallaro, P. Glock, M. Riedel, J.A. Benediktsson, “On Scalable Data Mining Techniques for Earth Science,” *Procedia Computer Science*, Vol. 51, pp. 2188-2197, 2015.
- (164) X. Kang, S. Li, L. Fang. and J.A. Benediktsson, “Intrinsic Image Decomposition for Feature Extraction of Hyperspectral Images,” *IEEE Trans. On Geoscience and Remote Sensing*, Vol. 53, pp. 2241 - 2253, 2015.
- (165) X. Huang, X. Guan, J.A. Benediktsson, L. Zhang, J. Li, A. Plaza, and M. Dalla Mura, “Multiple Morphological Profiles from Multicomponent Base Images for Hyperspectral Image Classification,” *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Vol. 7, pp. 4653-4669, 2014.
- (166) Z.Y. Lv, P.L. Zhang, J.A. Benediktsson and W.Z. Shi, “ Morphological Profiles Based on Differently Shaped Structuring Elements for Classification of Images With Very High Spatial Resolution,” *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Vol. 7, pp. 4644-4652, 2014.
- (167) J. Senthilnath, X.-S. Yang, and J.A. Benediktsson, “Automatic Registration of Multi-Temporal Remote Sensing Images Based on Nature Inspired Techniques,” *International Journal of Image and Data Fusion*, vol. 5, no. 4, pp. 263-284, 2014.
- (168) N. Falco, J.A. Benediktsson and L. Bruzzone, „ A Study on the Effectiveness of Different Independent Component Analysis Algorithms for Hyperspectral Image Classification,” *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Vol. 7, pp. 2183-2199, 2014.
- (169) L. Fang, S. Li, X. Kang and J.A. Benediktsson, “ Spectral–Spatial Hyperspectral Image Classification via Multiscale Adaptive Sparse Representation,” *IEEE Trans. on Geoscience and Remote Sensing*, Vol. 52, pp. 7738-7749, 2014.
- (170) X. Kang, L. Fang, S. Li, and J.A. Benediktsson, “ Pansharpening Based on Intrinsic Image Decomposition” *Sensing and Imaging*, Vol. 15, article 94, 2014.
- (171) B. Rasti, J.R. Sveinsson, M.O. Ulfarsson, and J.A. Benediktsson, „Hyperspectral Image Denoising Using First Order Spectral Roughness Penalty in Wavelet Domain,” *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Vol. 7, 2458-2467, 2014.
- (172) P. Ghamisi, J.A. Benediktsson, G. Cavallaro and A.J. Plaza, “ Automatic Framework for Spectral–Spatial Classification Based on Supervised Feature Extraction and Morphological Attribute Profiles, ” *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, pp. 2147-2160, 2014.

- (173) E.M. Sigurdsson, S. Valero, J.A. Benediktsson, J. Chanussot, H. Talbot, and E. Stefansson, „Automatic retinal vessel extraction based on directional mathematical morphology and fuzzy classification,“ *Pattern Recognition Letters*, Vol. 47, pp. 164-171, 2014.
- (174) P. Ghamisi, J.A. Benediktsson and J.R. Sveinsson, “Automatic Spectral-Spatial Classification Framework Based on Attribute Profiles and Supervised Feature Extraction,” *IEEE Trans. on Geoscience and Remote Sensing*, Vol. 52, pp. 5771 – 5782, 2014.
- (175) J. Senthilnath, P.K. Naveen and J.A. Benediktsson, „Accurate point matching based on multi-objective Genetic Algorithm for multi-sensor satellite imagery,“ *Applied Mathematics and Computation*, Vol. 236, pp. 546-564, 2014.
- (176) X. Kang, S. Li and J.A. Benediktsson, “ Pansharpening with Matting Model,” *IEEE Trans. on Geoscience and Remote Sensing*, vol. 52, pp. 5088-5099, 2014.
- (177) B. Song, J. Li, M. Dalla Mura, A. Plaza, J. M. Bioucas Dias, J.A. Benediktsson, and J. Chanussot, Remotely Sensed Image Classification Using Sparse Representations of Morphological Attribute Profiles, *IEEE Trans. on Geoscience and Remote Sensing*, Vol. 52, 5122-5136, 2014.
- (178) X. Kang, S. Li and J.A. Benediktsson, “Feature Extraction of Hyperspectral Images with Image Fusion and Recursive Filtering,” *IEEE Trans. on Geoscience and Remote Sensing*, vol. 52, pp. 3742 – 3752, 2014.
- (179) X. Kang, S. Li and J.A. Benediktsson, “ Spectral-Spatial Hyperspectral Image Classification with Edge-preserving Filtering,” vol. 52, pp. 2666 – 2677, *IEEE Trans. on Geoscience and Remote Sensing*, 2014.
- (180) P. Ghamisi, J.A. Benediktsson and M.O. Ulfarsson, “ Spectral-Spatial Classification of Hyperspectral Images Based on Hidden Markov Random Fields,” *IEEE Trans. on Geoscience and Remote Sensing*, vol. 52, pp. 2565 – 2574, 2014.
- (181) P. Ghamisi, M.S. Couceiro, F.M.L. Martins and J.A. Benediktsson, “Multilevel Image Segmentation based on Fractional-Order Darwinian Particle Swarm Optimization,” *IEEE Trans. on Geoscience and Remote Sensing*, vol. 52, pp. 2382 – 2394, 2014.
- (182) G. Camps-Valls, D. Tuia, L. Bruzzone, J.A. Benediktsson, „Advances in Hyperspectral Image Classification,“ *IEEE Signal Processing Magazine*, Vol. 31, pp. 45-54, 2014.
- (183) P. Ghamisi, M.S. Couceiro, M. Fauvel and J.A. Benediktsson, “Integration of Segmentation Techniques for Classification of Hyperspectral Images,” *IEEE Geoscience and Remote Sensing Letters*, pp. vol. 11, no. 1, pp. 342 – 346, 2014.
- (184) S. Bernabe, P. R. Marpu, A. Plaza, M. Dalla Mura and J. A. Benediktsson, “Spectral-Spatial Classification of Multispectral Images Using Kernel Feature Space Representation,” *IEEE Geoscience and Remote Sensing Letters*, pp. vol. 11, no. 1, pp. 288 – 292, 2014.
- (185) J. Bao, M. Chi, and J.A. Benediktsson, „Spectral Derivative Features for Classification of Hyperspectral Remote Sensing Images: Experimental

- Evaluation," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 6, pp. 594 – 601, 2013.
- (186) S. Bernabe, S. Sanchez, A. Plaza, S. Lopez, J.A. Benediktsson and R. Sarmiento, "Hyperspectral Unmixing on GPUs and Multicore Processors: A Comparison," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 6, no. 3, pp. 1386 - 1398, 2013.
- (187) J. Li, P.R. Marpu, A. Plaza, J. Bioucas-Dias and J.A. Benediktsson, „Generalized Composite Kernel Framework for Hyperspectral Image Classification," *IEEE Trans. on Geoscience and Remote Sensing*, vol. 51, no. 9, pp. 4816-4829, 2013.
- (188) I. Dopido, J. Li, P. Marpu, A. Plaza, J. Bioucas-Dias and J.A. Benediktsson, „Semi-Supervised Self-Learning for Hyperspectral Image Classification," *IEEE Trans. on Geoscience and Remote Sensing*, vol. 51, pp. 4032 – 4044, 2013.
- (189) M. Fauvel, B. Arbelot, J.A. Benediktsson, D. Sheeren and J. Chanussot, „Detection of hedges in a rural landscape using a local orientation feature: from linear opening to path opening," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 6, no. 1, pp. 15 - 26, 2013.
- (190) A. Villa, J. Chanussot, J.A. Benediktsson, C. Jutten, and R. Dambreville, "Unsupervised methods for the classification of hyperspectral images with low spatial resolution," *Pattern Recognition*, vol. 46, pp. 1556-1568 2013.
- (191) M. Pedernana, P.R. Marpu, M. Dalla Mura, J.A. Benediktsson and L. Bruzzone, "A Novel technique for Optimal Feature Selection in Attribute Profiles Based on Genetic Algorithms," *IEEE Trans. on Geoscience and Remote Sensing*, vol. 51, pp. 3514 – 3528, 2013.
- (192) N. Falco, M. Dalla Mura, F. Bovolo, J.A. Benediktsson and L. Bruzzone, "Change detection in VHR images based on morphological attribute profiles," *IEEE Geoscience and Remote Sensing Letters*, Vol. 10, pp. 636 – 640, 2013.
- (193) M. Fauvel, J. Chanussot, J.A. Benediktsson, A. Villa, „Parsimonious Mahalanobis kernel for the classification of high dimensional data," *Pattern Recognition*, vol. 46, No. 3, pp. 845-854, 2013.
- (194) M. Fauvel, Y. Tarabalka, J.A. Benediktsson, J. Chanussot and J.C. Tilton, „Advances in Spectral-Spatial Classification of Hyperspectral Images," *Proceedings of the IEEE*, March 2013, vol. 101, no.3, pp. 652 – 675, DOI 10.1109/JPROC.2012.2197589
- (195) G. Moser, S.B. Serpico and J.A. Benediktsson, „Land Cover Mapping by Markov Modeling of Spatial Contextual Information in Very-High Resolution Images," *Proceedings of the IEEE*, vol. 101, no. 3, 631 – 651, March 2013, DOI 10.1109/JPROC.2012.2211551
- (196) P.R. Marpu, M. Pedernana, M. Dalla Mura, J.A. Benediktsson, and L. Bruzzone, "Automatic Generation of Standard Deviation Attribute Profiles for Spectral–Spatial Classification of Remote Sensing Data," *IEEE Geoscience and Remote Sensing Letters*, pp. 293-297, No. 2, vol. 10, 2013, DOI: 10.1109/LGRS.2012.2203784
- (197) O. Eches, J.A. Benediktsson, N. Dobigeon, and J. Tourneret, "Adaptive Markov Random Fields for Joint Unmixing and Segmentation of Hyperspectral

- Images.” *IEEE Trans. on Image Processing*, vol. 22, no. 1, pp. 5-16, 2013, DOI: 10.1109/TIP.2012.2204270
- (198) P.R. Marpu, M. Pedernana, S. Peeters, M. Dalla Mura, J.A. Benediktsson, and L. Bruzzone, “Classification of hyperspectral data using extended attribute profiles based on supervised and unsupervised feature extraction techniques” *International Journal of Image and Data Fusion*, Vol. 3. No. 3, pp. 269-298, 2012
- (199) M. Pedernana, P.R. Marpu, M. Dalla Mura, J.A. Benediktsson, and L. Bruzzone, „Classification of Remote Sensing Optical and LiDAR Data Using Extended Attribute Profiles,“ *IEEE Selected Topics in Signal Processing*, pp. 856-865, Nov. 2012 DOI: 10.1109/JSTSP.2012.2208177
- (200) P. Ghamisi, M. S. Couceiro, J.A. Benediktsson, N. M.F. Ferreira, „An efficient method for segmentation of images based on fractional calculus and natural selection,“ *Expert Systems with Applications*, Volume 39, Issue 16, pp.12407-12417, November 2012.
- (201) S. Bernabe, A.J. Plaza, P.R. Marpu, and J.A. Benediktsson, „A new parallel tool for classification of remotely sensed imagery,“ *Computers & Geosciences* 2012, vol. 46, pp. 208-218, ,DOI: 10.1016/j.cageo.2011.12.009
- (202) J.A. Benediktsson, J. Chanussot and W. M. Moon, „Very High Resolution Remote Sensing: Challenges and Opportunities,“ *Proceedings of the IEEE*, Vol 100, pp. 1907-1910, 2012.
- (203) K. Bernard, Y. Tarabalka, J. Angolo, J. Chanussot and J.A. Benediktsson, Spectral-Spatial Classification of Hyperspectral Data based on a Stochastic Minimum Spanning Forest Approach, *IEEE Trans. on Image Processing*, pp. 2008-2021, 2012, DOI: 10.1109/TIP.2011.2175741
- (204) F. Palsson, J.R. Sveinsson, J.A. Benediktsson, H. Aanaes, Classification of Pansharpened Urban Satellite Images, *IEEE Journal on Selected Topics Applied Earth Observations and Remote Sensing*, Vol. 5, pp. 281 – 297, DOI: 10.1109/JSTARS.2011.2176467
- (205) G. A. Licciardi, A. Villa, M. Dalla Mura, L. Bruzzone, J. Chanussot, and J.A.; Benediktsson, „Retrieval of the Height of Buildings From WorldView-2 Multi-Angular Imagery Using Attribute Filters and Geometric Invariant Moments,“ *IEEE Journal on Selected Topics Applied Earth Observations and Remote Sensing*, Vol. 5, pp. 71 – 79, 2012, DOI: 10.1109/JSTARS.2012.2184269
- (206) Y. Tarabalka, J. Tilton, J. Chanussot, and J.A. Benediktsson, A Marker-Based Approach for the Automated Selection of a Single Segmentation From a Hierarchical Set of Image Segmentations, *IEEE Journal on Selected Topics Applied Earth Observations and Remote Sensing*, Vol. 5, pp. 262-272, 2012, DOI: 10.1109/JSTARS.2011.2173466
- (207) G. Licciardi, P.R. Marpu, J. Chanussot, and J.A. Benediktsson, Linear Versus Nonlinear PCA for the Classification of Hyperspectral Data Based on the Extended Morphological Profiles, *IEEE Geoscience and Remote Sensing Letters*, Vol. 9, pp., 447-451, 2012, DOI: 10.1109/LGRS.2011.2172185

- (208) M. Fauvel, J. Chanussot, and J.A. Benediktsson, „A spatial–spectral kernel-based approach for the classification of remote-sensing images,“ *Pattern Recognition*, Vol. 45, Issue 1, Pages 381-392, 2012
- (209) G. Troglia, J. Le Moigne, J.A. Benediktsson, G. Moser and S.B. Serpico, Automatic Extraction of Ellipsoidal Features for Planetary Image Registration, *IEEE Geoscience and Remote Sensing Letters*, Vol. 9, pp. 95-99, 2012, DOI: 10.1109/LGRS.2011.2161263
- (210) Y-L. Chang, K-S. Chen; B. Huang, W-Y. Chang, J.A. Benediktsson and L. Chang, A Parallel Simulated Annealing Approach to Band Selection for High-Dimensional Remote Sensing Images, *IEEE Journal on Selected Topics Applied Earth Observations and Remote Sensing*, Vol. 4, issue 3, pp. 579 - 590 , 2011, DOI: 10.1109/JSTARS.2011.2160048
- (211) A. Villa, J.A. Benediktsson, J. Chanussot and C. Jutten, „Hyperspectral Image Classification With Independent Component Discriminant Analysis,“ *IEEE Transactions on Geoscience and Remote Sensing*, 2011, Volume: 49 , Issue: 12 , Part: 1, Pages: 4865 - 4876, DOI: 10.1109/TGRS.2011.2153861 Paper received **TGRS Best Paper Award for 2011**.
- (212) M. Dalla Mura, A. Villa, J.A. Benediktsson, J. Chanussot and L. Bruzzone, „Classification of Hyperspectral Images by Using Extended Morphological Attribute Profiles and Independent Component Analysis, *IEEE Geoscience and Remote Sensing Letters*, Volume: 8 , Issue: 3, 2011, pp. 542 - 546, DOI: 10.1109/LGRS.2010.2091253 “
- (213) A. Villa, J. Chanussot, J.A. Benediktsson and C. Jutten, „Spectral Unmixing for the Classification of Hyperspectral Images at a Finer Spatial Resolution,“ *IEEE Journal of Selected Topics in Signal Processing*, Vol. 5, no. 3, Page(s): 521 - 533 2011, DOI: 10.1109/JSTSP.2010.2096798 "
- (214) M. Dalla Mura, J.A. Benediktsson, B. Waske and L. Bruzzone, „Extended profiles with morphological filters for the analysis of hyperspectral data,“ *International Journal of Remote Sensing*, Vol. 31, pp. 5975-5991, Nov. 2010.
- (215) T. Caistings, B. Waske, J.A. Benediktsson, J. Chanussot, „On the influence of feature reduction for the classification of hyperspectral images based on the extended morphological profile,“ *International Journal of Remote Sensing*, Vol. 31, pp. 5921-5939, Nov. 2010.
- (216) X. Ceamanos, B. Waske, J.A. Benediktsson, J. Chanussot, M. Fauvel and J.R. Sveinsson, “A Classifier Ensemble Based on Fusion of Support Vector Machines for Classifying Hyperspectral Data” *International Journal of Image and Data Fusion*, 2010. DOI: 10.1080/19479832.2010.485935
- (217) M. Dalla Mura, J.A. Benediktsson, B. Waske and L. Bruzzone, “Morphological Attribute Profiles for the Analysis of Very High Resolution Images,“ *IEEE Trans. On Geoscience and Remote Sensing*, vol. 48, pp. 3747-3763, 2010.
- (218) Y. Tarabalka, J.A. Benediktsson, and J. Chanussot “Multiple Spectral-Spatial Classification Approach for Hyperspectral Data,“ *IEEE Trans. on Geoscience and Remote Sensing*, pp. 4122-4132, 2010. DOI: 10.1109/TGRS.2010.2062526

- (219) Y. Tarabalka, M. Fauvel, J. Chanussot and J.A. Benediktsson, „SVM and MRF- Based Method for Accurate Classification of Hyperspectral Images, *IEEE Geoscience and Remote Sensing Letters*, pp. 736-740, 2010.
- (220) B. Waske, S. van der Linden, J.A. Benediktsson, A. Rabe, P. Hostert, “Sensitivity of Support Vector Machines to Random Feature Selection in Classification of Hyperspectral Data,” *IEEE Trans. on Geoscience and Remote Sensing*, vol. 48, pp. 3747-3763, 2010.
- (221) Y. Tarabalka, J. Chanussot, and J.A. Benediktsson, Segmentation and Classification of Hyperspectral Images Using Watershed Transformation, *Pattern Recognition*, Vol. 43, pp. 2367-2379, 2010.
- (222) Y. Tarabalka, J. Chanussot, and J.A. Benediktsson, “Segmentation and Classification of Hyperspectral Images Using Minimum Spanning Forest Grown from Automatically Selected Markers,” *IEEE Transactions on Systems, Man and Cybernetics, Part B*, vol. 40, pp. 1267-1279, 2010.
- (223) S. Valero, J. Chanussot, J.A. Benediktsson, H. Talbot, and B. Waske, “Advanced Directional Mathematical Morphology for the Detection of the Road Network in Very High Resolution Images,” *Pattern Recognition Letters*, Vol. 31, pp. 1120-1127, 2010.
- (224) B. Waske, J.A. Benediktsson, K. Arnason and J.R. Sveinsson, “Mapping of Hyperspectral AVIRIS Data using Machine Learning Algorithms,” *Canadian Journal of Remote Sensing*, Vol. 35, Suppl. 1, pp. S101-S106, 2009.
- (225) M. Chi, Q. Kun, J.A. Benediktsson and R. Feng, “Ensemble Classification Algorithm for Hyperspectral Remote Sensing Data,” *IEEE Geoscience and Remote Sensing Letters*, No. 3, pp. 762-766, October 2009.
- (226) S.H. Hardarson, M.S. Gottfredsdottir, G.H. Halldorsson, R.A. Karlsson, J.A. Benediktsson, Th. Eysteinnsson, J.M Beach, A. Harris, and E. Stefansson “Glaucoma filtering surgery and retinal oxygen saturation,” *Invest. Ophthalmol. Vis. Sci.*, Vol. 50, pp. 5247-5250, Nov. 2009.
- (227) A. Plaza, J.A. Benediktsson, J.W. Boardman, J. Brazile, L. Bruzzone, G. Camps-Valls, J. Chanussot, M. Fauvel, P. Gamba, A. Gualtieri, M. Marconcini, J.C. Tilton and G. Trianni, “Recent Advances in Techniques for Hyperspectral Image Processing, *Remote Sensing of the Environment*. Vol. 113, Supplement 1, pp. S110-S122, September 2009.
- (228) Y. Tarabalka, J. Chanussot and J.A. Benediktsson, “Spectral-spatial Classification of Hyperspectral Imagery Based on Partitional Clustering Techniques,” *IEEE Trans. on Geoscience and Remote Sensing*, vol. 47, no. 8, pp. 2973-2987 , Part 2, Aug. 2009.
- (229) S.H. Hardarson, S. Basit, T.E. Jonsdottir, T. Eysteinnsson, G.H. Halldorsson, R.A. Karlsson, J.M. Beach, J.A. Benediktsson, and E. Stefansson “Oxygen Saturation in Human Retinal Vessels is higher in Dark than in Light,” *Invest. Ophthalmol. Vis. Sci.*, 50: 2308-2311, 2009.
- (230) M. Fauvel, J. Chanussot, and J.A. Benediktsson, “Kernel principal component analysis for the classification of hyperspectral remote-sensing data over urban areas,” *EURASIP Journal on Advance in Signal Processing*, Volume 2009 (2009), Article ID 783194, 14 pages doi:10.1155/2009/783194

- (231) M. Fauvel, J.A. Benediktsson, J. Chanussot, and J.R. Sveinsson, "Spectral and Spatial Classification of Hyperspectral Data Using SVMs and Morphological Profiles," *IEEE Trans. on Geoscience and Remote Sensing*, vol. 46, no. 11, pp. 3804-3814, Nov. 2008.
- (232) M.Dalla Mura, J.A. Benediktsson, F. Bovolo and L. Bruzzone, "An Unsupervised Technique Base don Morphological Filters for Change Detection in Very High Resolution Images," *IEEE Geoscience and Remote Sensing Letters*, vol. 5, no. 3, pp. 433-437, July 2008.
- (233) H. Aaneaes, J.R. Sveinsson, A.A. Nielsen, T. Bovith, and J.A. Benediktsson, "Model-based Satellite Image Fusion," *IEEE Trans. on Geoscience and Remote Sensing*, vol. 46, no. 5, pp. 1336-1346, May 2008.
- (234) S. Moussai, H. Hauksdottir, F. Schmidt, C. Jutten, J. Chanussot, D. Brie, S. Doute and J.A. Benediktsson, "On Decomposition of Mars Hyperspectral Data by ICA and Baysian Source Separation," *Neurocomputing*, Vol. 71, pp. 2194-2208, June 2008.
- (235) B. Waske, and J.A. Benediktsson, "Fusion of Support Vector Machines for Classification of Multisensor Data," *IEEE Trans. on Geoscience and Remote Sensing*, vol. 45, no. 12, Dec. 2007.
- (236) S.H. Hardarson, A. Harris, R.A. Karlsson, G.H. Halldorsson, L. Kageman, E. Rechtman, G.M. Zoega, T. Eysteinnsson, J.A. Benediktsson, A. Thorsteinsson, P.K. Jensen, J. Beach and E. Stefansson, "Automatic Retinal Oximetry," *Investigative Ophthalmology & Visual Science*, vol. 47, No. 11, pp. 5011-5016, Nov. 2006.
- (237) M. Fauvel, J. Chanussot and J.A. Benediktsson, "Decision Fusion for the Classification of Urban Remote Sensing Images," *IEEE Trans. on Geoscience and Remote Sensing*, vol. 44, no. 10, pp. 2828-2838, Oct. 2006.
- (238) P.O. Gislason, J.A. Benediktsson and J.R. Sveinsson, "Random Forests for Land Cover Classification," *Pattern Recognition Letters*, vo. 27, no. 4, pp. 294-300, March 2006.
- (239) F. Dell'Acqua, P. Gamba, V. Casella, F. Zucca, J.A. Benediktsson, G.G. Wilkinson, A. Galli, G.A. Jones, D. Greenhill, and L. Ripke, "HySenS Data Exploitation for Urban Land Cover Analysis," *Annals of Geophysics*, vol. 49, no.1, pp. 313-320, February 2006.
- (240) J. Chanussot, M. Fauvel and J.A. Benediktsson, "Classification of Remote Sensing Images from Urban Areas Using a Fuzzy Possibilistic Model," *IEEE Geoscience and Remote Sensing Letters*, vol. 3, no. 1, pp. 40-44, Jan. 2006.
- (241) J.A. Benediktsson, J.A. Palmason, and J.R. Sveinsson, "Classification of Hyperspectral Data from Urban Areas Based on Extended Morphological Profiles," *IEEE Trans. on Geoscience and Remote Sensing*, vol. 43, no. 3, pp.480-491, March 2005.
- (242) F. Dell'Acqua, P. Gamba, A. Ferrari, J.A. Palmason, J.A. Benediktsson, and K. Arnason, "Exploiting Spectral and Spatial Information in Hyperspectral Urban Data with High Resolution," *IEEE Geoscience and Remote Sensing Letters*, Oct. 2004.

- (243) J.R. Sveinsson and J.A. Benediktsson "Almost Translation Invariant Wavelet Transformations for Speckle Reduction of SAR Images," *IEEE Trans. on Geoscience and Remote Sensing*, vol. 41, no. 10, pp. 2404- 2408, Oct. 2003.
- (244) J.A. Benediktsson, M. Pesaresi and K. Arnason, "Classification and Feature Extraction for Remote Sensing Images from Urban Areas based on Morphological Transformations," *IEEE Trans. on Geoscience and Remote Sensing*, vol. 41, no. 9, pp. 1940-1949, Sept. 2003.
- (245) M.O. Ulfarsson, J.A. Benediktsson, and J.R. Sveinsson, "Data Fusion and Feature Extraction in the Wavelet Domain," *International Journal of Remote Sensing*, vol. 24, no. 20, pp. 3933-3945, Sept. 2003.
- (246) J.A. Benediktsson and J.R. Sveinsson, "Multisource Remote Sensing Data Classification Based on Consensus and Pruning," *IEEE Trans. on Geoscience and Remote Sensing*, vol. 41, no. 9, pp. 932-936, April. 2003.
- (247) G.J. Briem, J.A. Benediktsson, and J.R. Sveinsson, "Multiple Classifiers in Classification of Multisource Remote Sensing Data," *IEEE Trans. on Geoscience and Remote Sensing*, vol. 40, no. 10, pp. 2291 – 2299, Oct. 2002.
- (248) M. Petrakos, J.A. Benediktsson, and I. Kanellopoulos, "The Effect of Correlation on the Combined Accuracy in Decision Level Fusion", *IEEE Transactions on Geosciene and Remote Sensing*, vol. 39, no. 11, pp. 2539-2546, Nov. 2001.
- (249) M. Pesaresi and J.A. Benediktsson, "A New Approach for the Morphological Segmentation of High-resolution Satellite Imagery," *IEEE Transactions on Geosciene and Remote Sensing*, vol. 39, no. 2, pp. 309-320, 2001.
- (250) J.A. Benediktsson and I. Kanellopoulos, "Decision Fusion Methods in Classification of Multisource and Hyperdimensional Data," *IEEE Transactions on Geoscience and Remote Sensing*, Special Issue on Data Fusion, vol. 37, no. 3, pp. 1367-1377, May 1999.
- (251) J.A. Benediktsson, J.R. Sveinsson, J.I. Ingimundarson, H.S. Sigurdsson, and O.K. Ersoy, "Multistage Classifiers Optimized by Neural Networks and Genetic Algorithms," *Nonlinear Analysis, Theory, Methods & Applications*, Vol. 30, No. 3, pp. 1323-1334, 1997.
- (252) J.A. Benediktsson, J.R. Sveinsson, and P.H. Swain, "Hybrid Consensus Theoretic Classification," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 35, no. 4, pp. 833-843, July 1997.
- (253) J.A. Benediktsson, J.R. Sveinsson, O.K. Ersoy, and P.H. Swain, "Parallel Consensual Neural Networks," *IEEE Transactions on Neural Networks*, vol. 8, pp. 54-65, Jan. 1997.
- (254) J.R. Sveinsson, J.A. Benediktsson, S.B. Stefansson, and K. Davidsson, "Parallel PrincipalComponent Neural Networks for Classification of Event-Related Potential Waveforms," *Medical Engineering & Physics*, vol. 19, no. 1, pp. 15-20, 1997.
- (255) J.A. Benediktsson and J.R. Sveinsson, "Feature Extraction for Multisource Data Classification with Artificial Neural Networks," *International Journal of Remote Sensing*, vol. 18, no. 4, pp. 727-740, 1997.

- (256) J.A. Benediktsson, J.R. Sveinsson, and K. Arnason, "Classification and Feature Extraction of AVIRIS Data," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 33, no. 5, pp. 1194-1205, September 1995.
- (257) J.A. Benediktsson, P.H. Swain, and O.K. Ersoy, "Conjugate-Gradient Neural Networks in Classification of Multisource and Very-High-Dimensional Remote Sensing Data," *International Journal of Remote Sensing*, vol. 14, no. 15, pp. 2883-2903, 1993.
- (258) J.A. Benediktsson and P.H. Swain, "Consensus Theoretic Classification Methods," *IEEE Transactions on Systems, Man and Cybernetics*, vol. 22, no. 4, pp. 688-704, July/August 1992.
- (259) J.A. Benediktsson, P.H. Swain, and O.K. Ersoy, "Neural Network Approaches Versus Statistical Methods in Classification of Multisource Remote Sensing Data," *IEEE Transactions on Geoscience and Remote Sensing*, vol. GE-28, no. 4, pp. 540-552, July 1990.

Bókakaflar:

- (1) R. Sedona, G. Cavallaro, M. Riedel, and J.A. Benediktsson, "Proven Approaches of Using Innovative High-Performance Computing Architectures in Remote Sensing," *Signal and Image Processing for Remote Sensing*, 3rd. Edition, (Edited by C.H. Chen) pp. 8-24, CRC Press, New York, 2024.
- (2) N. Falco, J. Xia, X. Kang, S. Li, J.A. Benediktsson, "Supervised classification methods in hyperspectral imaging — recent advances," *Data Handling in Science and Technology*, 32, pp. 247-279, 2020.
- (3) G. Moser, J. Zerubia, S.B. Serpico and J.A. Benediktsson, „Mathematical Models and Methods for Remote Sensing Image Analysis: An Introduction,“ *Mathematical Models for Remote Sensing Image Processing - Models and Methods for the Analysis of 2D Satellite and Aerial Images* (Edited by G. Moser and J. Zerubia), pp. 1-36, Springer, Berlin, 2018.
- (4) J.A. Benediktsson, G. Cavallaro, N. Falco, I. Hedhli, V. Krylov, G. Moser, J. S.B. Serpico and J. Zerubia, „Remote Sensing Data Fusion: Markov Models and Mathematical Morphology for Multisensor, Multiresolution, and Multiscale Image Classification“ *Mathematical Models for Remote Sensing Image Processing - Models and Methods for the Analysis of 2D Satellite and Aerial Images* (Edited by G. Moser and J. Zerubia), pp. 277-323, Springer, Berlin, 2018.
- (5) G. Cavallaro, M. Dalla Mura, and J.A. Benediktsson, "ANALYZING REMOTE SENSING IMAGES WITH HIERARCHIAL MORPHOLOGICAL REPRESENTATIONS," *Handbook of Pattern Recognition and Computer Vision*, 5th Edition, World Scientific Press, Singapore, pp. 313-330, 2016
- (6) B. Waske and J.A. Benediktsson, „Decision Fusion and Classification of Multisource Data,“ in *Encyclopedia of Remote Sensing*, (Edited by E. G. Njoku), pp. 140-144, Springer Verlag, Berlin 2014.
- (7) B. Waske and J.A. Benediktsson, „Pattern Recognition and Classification,“ in *Encyclopedia of Remote Sensing*, (Edited by E. G. Njoku), pp. 503-509, Springer Verlag, Berlin 2014.

- (8) G. Troglia, J.A. Benediktsson, G. Moser and S.B. Serpico, „Crater Detection based on Marked Point Processes,“ in *Signal and Image Processing for Remote Sensing*, 2nd ed. (Edited by C.H. Chen), pp. 325-338, CRC Press, New York, 2012.
- (9) G. Troglia, J.A. Benediktsson, G. Moser and S.B. Serpico, „Crater Detection based on Marked Point Processes,“ in *Signal and Image Processing for Remote Sensing*, 2nd ed. (Edited by C.H. Chen), pp. 325-338, CRC Press, New York, 2012.
- (10) B. Waske, J.A. Benediktsson and J.R. Sveinsson, „Random Forest Classification of Remote Sensing Data,“ in *Signal and Image Processing for Remote Sensing*, 2nd ed. (Edited by C.H. Chen), pp. 365-374, CRC Press, New York, 2012.
- (11) A. Villa, J.A. Benediktsson, J. Chanussot and C. Jutten, „Integration of Full and Mixed Pixel Techniques to Obtain Thematic Maps with a Refined Resolution,“ in *Signal and Image Processing for Remote Sensing*, 2nd ed. (Edited by C.H. Chen), pp. 403-420, CRC Press, New York, 2012.
- (12) G. Troglia, J.A. Benediktsson, G. Moser, S.B. Serpico, and E. Stefansson, „Unsupervised Change Detection in Multitemporal Images of the Human Retina,“ in *Multi Modality State-of-the-Art Medical Image Segmentation and Registration Methodologies*, (A. El-Baz, R. Acharya, and M. Mirmehdi (eds.)) Vol. 1, pp. 309-338, Springer, Berlin 2011
- (13) M. Dalla Mura, J.A. Benediktsson, J. Chanussot and L. Bruzzone, „The Evolution of the Morphological Profile: from Panchromatic to Hyperspectral Images,“ in *Optical Remote Sensing: Advances in Signal Processing and Exploitation Techniques*, (S. Prasad, J. Chanussot, and L. Bruce (eds.)), pp. 123-146, Springer Verlag, Berlin 2011.
- (14) J.A. Benediktsson, „Foreword,“ *Image Registration for Remote Sensing* (J. Le Moigne, N. Nethanyahu, and R. Eastman), pp. xii-xiii, Cambridge University Press, 2011.
- (15) Y. Tarabalka, J. Chanussot and J.A. Benediktsson, “Spectral-Spatial Classification of Hyperspectral Images Using Segmentation-Derived Adaptive Neighborhoods” In: *Multivariate Image Processing: Methods*, Ch. Collet, J. Chanussot, and K. Chehdi (eds.), pp. 341-374, ISTE Ltd and John Wiley & Sons, Inc., London 2010.
- (16) B. Waske, M. Chi, J. A. Benediktsson, S. van der Linden, and B. Kötz, “Algorithms and applications for land cover classification – a review.” In: D. Li, J. Gong, J. Shan (Eds.), *Geospatial Technology for Earth Observation*, pp. 203-234, Springer, Berlin 2009.
- (17) B. Waske, M. Fauvel, J.A. Benediktsson, and J. Chanussot, Machine Learning Techniques in Remote Sensing Data Analysis. In: G. Camps-Valls und B. Lorenzo (Eds.), *Kernel Methods for Remote Sensing Data Analysis*, pp. 3-24, John Wiley & Sons, London 2009.
- (18) A. Vesteinsson, H. Aanaes, J.R. Sveinsson and J.A. Benediktsson, “Spectrally Consistent Pansharpening,” *Advances in Land Remote Sensing: System, Modeling, Inversion and Application* (edited by S. Liang), pp. 293-312, Springer Verlag, Berlin 2008.
- (19) M. Fauvel, J.C. Chanussot and J.A. Benediktsson, “Decision Fusion for Hyperspectral Classification,” *Hyperspectral Data Exploitation: Theory and Application* (edited by C.-I Chang), John Wiley & Sons, New York 2007.

- (20) S.R. Joelsson, J.A. Benediktsson and J.R. Sveinsson, "Random Forest Classification of Remote Sensing Data," *Signal and Image Processing for Remote Sensing* (edited by C.H. Chen), CRC Press, New York, 2006.
- (21) J.R. Sveinsson and J.A. Benediktsson, "Wavelet transformations for classification and filtering of remote sensing data," *Geospatial Pattern Recognition*, (edited by E. Binaghi, P.A. Brivio and S.B. Serpico), Research Signpost, Singapore, 2002.
- (22) M.O. Ulfarsson, J.R. Sveinsson and J.A. Benediktsson "Denoising in the Curvelet Domain," *Yearbook of VFI*, pp. 236-242, November 2002.
- (23) G.J. Briem, J.A. Benediktsson and J.R. Sveinsson, "Boosting, Bagging, and Consensus Based Classification of Multisource Remote Sensing Data," *Multiplier Classifier Systems, Lecture Notes in Computer Science 2096*, (edited by F. Roli and J. Kittler), pp. 279-288, Springer-Verlag, Berlin 2001.
- (24) M. Pesaresi and J.A. Benediktsson, "Image Segmentation Based on the Derivative of the Morphological Profile," *Mathematical Morphology and its Applications to Image and Signal Processing*, (edited by J. Goustsias, L. Vincent, and D.S. Bloomberg), Kluwer Academic Publishers, Norwell, MA, 2000.
- (25) J.A. Benediktsson and J.R. Sveinsson, "Consensus Based Classification of Multisource Remote Sensing Data," *Multiplier Classifier Systems, Lecture Notes in Computer Science 1857*, (edited by F. Roli and J. Kittler), Springer-Verlag, Berlin 2000.
- (26) K. Arnason and J.A. Benediktsson, "Environmental Mapping Based on High Resolution Remote Sensing Data," *Machine Vision in Remote Sensing*, (edited by I. Kanellopoulos, G.G. Wilkinson, and T. Moons), pp. 89-99, Springer-Verlag, Berlin 1999.
- (27) J.A. Benediktsson and I. Kanellopoulos, "Information Extraction Based on Multisensor Data Fusion and Neural Networks," *Information Processing for Remote Sensing*, (edited by C.H. Chen), pp. 369-396, World Scientific Press, Singapore 1999.
- (28) J.A. Benediktsson, "Statistical and Neural Network Pattern Recognition Methods for Remote Sensing Applications," *Handbook of Pattern Recognition and Computer Vision*, 2nd edition (edited by C.H. Chen, L.F. Pau, and P.S.P. Wang), pp. 507 – 534, World Scientific Press, Singapore 1999
- (29) J.A. Benediktsson and J.R. Sveinsson, "Feature Extraction for Neural Network Classifiers," in *Neurocomputation in Remote Sensing Data Analysis* (edited by I. Kanellopoulos, G.G. Wilkinson, F. Roli, and J. Austin), pp. 97-104, Springer-Verlag, Berlin 1997.
- (30) J.R. Sveinsson, J.A. Benediktsson, S.B. Stefansson and K. Davidsson, "Artificial Neural Networks in Classification of Event-Related Potential Waveforms," *Bók Davíðs*, pp. 293-304, University of Iceland Press, Reykjavik, 1996.

Einkaleyfi:

- (1) US 8355579 B2 "Automatic extraction of planetary image features" (J. Le Moigne, G. Troglia, S.B. Serpico, and G. Moser) – Issued Jan. 15, 2013
- (2) US8233667,US20080192987,CN101040184A, EP1789783A1, WO2006027802A1, "Apparatus and method for analysis of size, form and angularity and for compositional analysis of mineral and rock particles" (T. Helgason, J. Lee, M.L.

- Smith, A.T. Möller, T. Thorgeirsson, V. Hofer, J. Pilz, and J.A. Benediktsson) – Issued Jul 31, 2012
- (3) US 20060276698 A1, US 7774036 B2, “Automatic registration of images,” (G.H. Halldorsson, E. Stefansson, J.A. Benediktsson, R.A. Karlsson, S.H. Harðarson, Þ. Eysteinnsson, and J.M. Beach), Issued Aug. 10, 2010.

Ráðstefnugreinar:

- (1) M. Riedel, G. Cavallaro and J. A. Benediktsson, "Practice and Experience in Using Parallel and Scalable Machine Learning in Remote Sensing from HPC Over Cloud to Quantum Computing," *2021 IEEE International Geoscience and Remote Sensing Symposium - IGARSS, 2021*, pp. 1571-1574, Brussels, Belgium. DOI: 10.1109/IGARSS47720.2021.9554656, 2021.
- (2) T. Hu, X. Huang, J. Li, J. A. Benediktsson, J. Yang and J. Gong, "A Semi-Supervised Approach Towards Land Cover Mapping with Sentinel-2 Dense Time-Series Imagery," *IGARSS 2019 - 2019 IEEE International Geoscience and Remote Sensing Symposium*, Yokohama, Japan, pp. 2423-2426, 2019.
- (3) H. Deborah, N. Richard, M. Ö. Úlfarsson, J. Atli Benediktsson and J. Y. Hardeberg, "A metrological spectral difference space for the statistical modelling of hyperspectral images," *IGARSS 2019 - 2019 IEEE International Geoscience and Remote Sensing Symposium*, Yokohama, Japan, pp. 1104-1107, 2019.
- (4) S. Kulkarni, J. Senthilnath and J.A. Benediktsson, “Classification of Multi-Spectral Satellite Image Using Hierarchical Clustering Algorithms,” *Proceedings of the 2018 IEEE Symposium Series on Computational Intelligence, SSCI 2018*, art. no. 8628698, pp. 1664-1669, 2018.
- (5) P. Duan, X. Kang, S. Li and J.A. Benediktsson, “Multi-Scale Structure Extraction for Hyperspectral Image Classification,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2018, Valencia, Spain, pp. 5724-5727, July 22-27, 2018.
- (6) T. Lu, S. Li, and J.A. Benediktsson “Iterative clustering based active learning for hyperspectral image classification,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2017, Fort Worth, TX, pp. 3664-3377, July 23-28, 2017.
- (7) P. Du, J. Xia, P. Ghamisi, A. Iwasaki, and J.A. Benediktsson “Multiple composite kernel learning for hyperspectral image classification,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2017, Fort Worth, TX, pp. 2223-2226, July 23-28, 2017.
- (8) W. Fu, S. Li, L. Fang, and J.A. Benediktsson “Spectral-spatial online dictionary learning for hyperspectral image classification,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2017, Fort Worth, TX, pp. 3724-3727, July 23-28, 2017.
- (9) G. Caravallo, M. Dalla Mura, M. Riedel, and J.A. Benediktsson “Tree-based supervised feature extraction method based on self-dual attribute profiles”

- Proceedings IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2017, Fort Worth, TX, pp. 775-778, July 23-28, 2017.
- (10) N. He, L. Fang, S. Li, P. Ghamisi, and J.A. Benediktsson “Hyperspectral images classification by fusing extinction profiles feature,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2017, Fort Worth, TX, pp. 2267-2270, July 23-28, 2017.
 - (11) F. Kizel, L. Bruzzone, and J.A. Benediktsson “Simultaneous empirical line calibration of multiple spectral images,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2017, Fort Worth, TX, pp. 4185-4189, July 23-28, 2017.
 - (12) X. Kang, S. Li, and J.A. Benediktsson “Hyperspectral Image Classification: A Benchmark,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2017, Fort Worth, TX, pp. 3632 - 3639, July 23-28, 2017.
 - (13) N. Falco, G. Cavallaro, P.R. Marpu, and J.A. Benediktsson “Unsupervised change detection analysis to multi-channel scenario based on morphological contextual analysis,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2016, Beijing, China, pp. 3374-3377, July 10-15, 2016.
 - (14) P. Ghamisi, R. Souza, L. Ritter, J.A. Benediktsson, R. Lotufo, and X.X. Zhu, “Extinction profiles: A novel approach for the analysis of remote sensing data,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2016, Beijing, China, pp. 5122-5125, July 10-15, 2016.
 - (15) G. Cavallaro, M. Dalla Mura, E. Carlinet, T. Géraud, N. Falco and J.A. Benediktsson, “Region-based classification of remote sensing images with the morphological tree of shapes,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2016, Beijing, China, pp. 5087-5090, July 10-15, 2016.
 - (16) Z. Sun, M. Chi, and J.A. Benediktsson, “Computational Efficiency Active Learning for classification of hyperspectral images,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2016, Beijing, China, pp. 5138-5090, July 10-15, 2016.
 - (17) G. Cavallaro, M. Dalla Mura, N. Falco, J.A. Benediktsson “Automatic morphological attribute profiles,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2015, Milan, Italy, pp. 2604-2606, July 26-31, 2015.
 - (18) F. Palsson, J.R. Sveinsson, M.O. Ulfarsson, and J.A. Benediktsson, “Model based pansharpening method based on TV and MTF deblurring,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2015, Milan, Italy, pp. 33-36, July 26-31, 2015.
 - (19) G. Cavallaro, M. Riedel, C. Bodenstern, P. Glock, M. Richerzhagen, M. Goetz, and J.A. Benediktsson, “Scalable developments for big data analytics in remote sensing,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium*, IGARSS 2015, Milan, Italy, pp. 1366-1369, July 26-31, 2015.

- (20) F. Palsson, J.R. Sveinsson, M.O. Úlfarsson, and J.A. Benediktsson, “MTP deblurring preprocessing for CS and MRA pansharpener methods,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2015, Milan, Italy*, pp. 1088-1091, July 26-31, 2015.
- (21) D. Liu, L. Wang and J.A. Benediktsson, “An interactive color visualization method with multi-image fusion for hyperspectral imagery,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2015, Milan, Italy*, pp. 1104-1107, July 26-31, 2015.
- (22) X. Kang, S. Li, L. Fang and J.A. Benediktsson, “High resolution visible image completion of urban region using corresponding hyperspectral image,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2015, Milan, Italy*, pp. 1155-1158, July 26-31, 2015.
- (23) T. Hame, T. , Mutanen, Y. Rauste, O. Antropov, M. Molinier, S. Quegan, E. Kantzas, A. Makela, F. Minunno, J.A. Benediktsson, N. Falco, K. Arnason, R.Storvold, J. Haarpaintner, V. Elsakov, and J. Rasinmaki, “Enabling intelligent copernicus services for carbon and water balance modeling of boreal forest ecosystems — North state,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2015, Milan, Italy*, pp. 2048-2051, July 26-31, 2015.
- (24) P. Ghamisi, D. Wu, G. Cavallaro, J.A. Benediktsson, S. Phinn and N. Falco, “An advanced classifier for the joint use of LiDAR and hyperspectral data: Case study in Queensland, Australia,” *Proceedings IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2015, Milan, Italy*, pp. 2354-2357, July 26-31, 2015.
- (25) G. Cavallaro, N. Falco, M. Dalla Mura, L. Bruzzone, and J.A. Benediktsson, - “Automatic Threshold Selection for Profiles of Attribute Filters Based on Granulometric Characteristic Functions,” *Proc. of 12th International Symposium on Mathematical Morphology (ISMM 2015), Reykjavik, Iceland*, pp. 169-181, May 27-29, 2015.
- (26) G. Cavallaro, M. Dalla Mura, and J.A. Benediktsson, “Processing of high resolution images of urban areas with self-dual attribute filters,” *Proceedings of JURSE 2015, IEEE, Lausanne, Switzerland, March 30-April 1 2015*.
- (27) P. Ghamisi and J.A. Benediktsson, "Feature selection of hyperspectral data by considering the integration of Genetic Algorithms and Particle Swarm Optimization," *SPIE Proceedings Volume 9244: Image and Signal Processing for Remote Sensing XX*, pp. 92440J-1 - 92440J-6, SPIE Publications, Bellingham, WA, 2014
- (28) F. Palsson, J.R. Sveinsson, M.O. Úlfarsson and J.A. Benediktsson, “Model Based PCA/Wavelet Fusion of Multispectral and Hyperspectral Images,” *Proceedings of 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 856-859, Quebec City, Canada, July 13-18, 2014.
- (29) W. Fu, S. Li, L. Feyang, X. Kang, and J.A. Benediktsson, “Extended Random Walkers for Hyperspectral Image Classification,” *Proceedings of 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 3430-3433, Quebec City, Canada, July 13-18, 2014.

- (30) X. Kang, S. Li, M. Li and J.A. Benediktsson, "Spectral-Spatial Hyperspectral Classification via Shape-Adaptive Sparse Representation" *Proceedings of 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 1520-1523, Quebec City, Canada, July 13-18, 2014.
- (31) G. Cavallaro, M. Dalla Mura, J.A. Benediktsson and L. Bruzzone, "A Comparison of Self-Dual Attribute Profiles Based on Different Filter Rules for Classification," *Proceedings of 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 1265-1268, Quebec City, Canada, July 13-18, 2014.
- (32) G. Cavallaro, M. Riedel, J.A. Benediktsson, M. Goetz, T. Runarsson, K. Jonasson, and T. Lippert, "Smart Data Analytics Methods for Remote Sensing Applications," *Proceedings of 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 1405-1408, Quebec City, Canada, July 13-18, 2014.
- (33) N. Falco, J.A. Benediktsson and L. Bruzzone, "An ICA Based Approach to Hyperspectral Image Feature Reduction," *Proceedings of 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 3470-3473, Quebec City, Canada, July 13-18, 2014.
- (34) M. Khodadadzadeh, J. Li, A. Plaza, P. Gamba, J.A. Benediktsson, and J.M. Bioucas-Dias, "A New Framework for Hyperspectral Image Classification Using Multiple Spectral and Spatial Features," *Proceedings of 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 4628-4631, Quebec City, Canada, July 13-18, 2014.
- (35) P. Ghamisi, J.A. Benediktsson, and S. Phinn "Fusion of Hyperspectral and LiDar Data in Classification of Urban Areas," *Proceedings of 2014 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 181-184, Quebec City, Canada, July 13-18, 2014.
- (36) P. Ghamisi, M. Couceiro, J.A. Benediktsson, "FODSPO Based Feature Selection for Hyperspectral Remote Sensing Data," *IEEE Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS)*, 2014 6th Workshop on, Lausanne, Switzerland, June, 2014.
- (37) N. Falco, J.A. Benediktsson and L. Bruzzone, "Extraction of Spatial Features in Hyperspectral Images Based on the Analysis of the Differential Attribute Profiles," *SPIE Image and Signal Processing for Remote Sensing XIX*, Dresden Germany, Sept. 2013, *Proc. SPIE 8892, Image and Signal Processing for Remote Sensing XIX*, pp. 88920O-1- 88920O-9, SPIE Publications, Bellingham, WA, 2013.
- (38) P. Ghamisi, M. Couceiro, J.A. Benediktsson, "Classification of Hyperspectral Images with Binary Fractional Order Darwinian PSO and Random Forests," *SPIE Image and Signal Processing for Remote Sensing XIX*, Dresden Germany, Sept. 2013, *Proc. SPIE 8892, Image and Signal Processing for Remote Sensing XIX*, pp. 88920S-1- 88920S-8, SPIE Publications, Bellingham, WA, 2013
- (39) B. Rasti, J.R. Sveinsson, M.O. Úlfarsson and J.A. Benediktsson, "Hyperspectral Image Restoration Using Wavelets," *SPIE Image and Signal Processing for Remote Sensing XIX*, Dresden Germany, Sept. 2013, *Proc.*

- SPIE 8892, Image and Signal Processing for Remote Sensing XIX*, pp. 889207-1- 889207-9, SPIE Publications, Bellingham, WA, 2013
- (40) B. Rasti, J.R. Sveinsson, M.O. Úlfarsson and J.A. Benediktsson, “Wavelet Based Hyperspectral Image Restoration Using Spatial and Spectral Penalties,” *SPIE Image and Signal Processing for Remote Sensing XIX*, Dresden Germany, Sept. 2013, *Proc. SPIE 8892, Image and Signal Processing for Remote Sensing XIX*, pp. 88920I-1- 88920I-9, SPIE Publications, Bellingham, WA, 2013
- (41) J. Sigurdsson, M.O. Úlfarsson, J.R. Sveinsson, and J.A. Benediktsson,, “Smooth Spectral Unmixing Using Total Variation Regularization and a First Order Roughness Penalty,” *Proceedings of 2013 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 2160-2163, Melbourne, Australia, July 21-26, 2013.
- (42) J. Sigurdsson, M.O. Úlfarsson, J.R. Sveinsson, and J.A. Benediktsson, “Sparse Representation of Hyperspectral Data Using CUR Matrix Decomposition,” *Proceedings of 2013 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 433-436, Melbourne, Australia, July 21-26, 2013.
- (43) B. Rasti, J.R. Sveinsson, M.O. Úlfarsson and J.A. Benediktsson, “Hyperspectral Image Denoising Using a New Linear Model and Sparse Regularization,” *Proceedings of 2013 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 457-460, Melbourne, Australia, July 21-26, 2013.
- (44) F. Palsson, J.R. Sveinsson, M.O. Úlfarsson and J.A. Benediktsson, “Pansharpening via Sparse Optimization Using Overcomplete Transforms,” *Proceedings of 2013 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 856-859, Melbourne, Australia, July 21-26, 2013.
- (45) P. Ghamisi, M. Couceiro, M. Fauvel, J.A. Benediktsson, “Spectral Spatial Classification Based on Integrated Segmentation,” *Proceedings of 2013 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 1458-1461, Melbourne, Australia, July 21-26, 2013.
- (46) P. Ghamisi, J.A. Benediktsson and M.O. Ulfarsson, “The Spectral-Spatial Classification of Hyperspectral Imagined Based on Hidden Markov Random Field and Its Expectation Maximization,” *Proceedings of 2013 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 1107-1110, Melbourne, Australia, July 21-26, 2013. **Winner of Student Paper Contest.**
- (47) X. Kang, S. Li, and J.A. Benediktsson, “Pansharpening of Remote Sensing Images With a Matting Model,” *Proceedings of 2013 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 1226-1229, Melbourne, Australia, July 21-26, 2013.
- (48) N. Falco, L. Bruzzone and J.A. Benediktsson, “A Comparative Study of ICA Algorithms for Hyperspectral Image Analysis, *IEEE Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS)*, 2013 5th Workshop on, Gainesville, Florida, June, 2013.

- (49) P. Ghamisi, M. Couceiro, J.A. Benediktsson, “Extending the Fractional Order Darwinian Particle Swarm Optimization to Segmentation of Hyperspectral Images,” *SPIE Image and Signal Processing for Remote Sensing XVIII Edinburgh*, UK, Sept. 2012, *Proc. SPIE* 8537, *Image and Signal Processing for Remote Sensing XVIII*, 853712 (November 8, 2012); DOI: 10.1117/12.978776, <http://dx.doi.org/10.1117/12.978776> SPIE Publications, Bellingham, WA, 2012.
- (50) G. Cavallaro, B. Arbelot, M. Fauvel, M. Dalla Mura, J.A. Benediktsson, L. Bruzzone, J. Chanussot, D. Sheeren, “Detection of Hedges Based on Attribute Filters,” *SPIE Image and Signal Processing for Remote Sensing XVIII Edinburgh*, UK, Sept. 2012, *Proc. SPIE* 8537, *Image and Signal Processing for Remote Sensing XVIII*, 853712 (November 8, 2012); doi:10.1117/12.999360; <http://dx.doi.org/10.1117/12.999360> SPIE Publications, Bellingham, WA, 2012.
- (51) G. Moser, S.B. Serpico, J.A. Benediktsson, “Markov Random Field Models for Supervised Land Cover Classification From Very High Resolution Multispectral Remote Sensing Images,” *Tyrrhenian Workshop 2012 on Advances in Radar and Remote Sensing*, Naples, Italy, 2012.
- (52) S. Bernabe, P.R. Marpu, A. Plaza, J.A. Benediktsson, “Spectral Unmixing of Multispectral Satellite Images with Dimensionality Expansion Using Morphological Profiles,” *Proceedings SPIE Optics and Photonics, Satellite Data Compression, Communication, and Processing Conference VIII*, Vol. 8514, pp. 8514Z1 - 8514Z-8, San Diego, CA, August 2012.
- (53) M. Fauvel, D. Sheeren, J. Chanussot, and J.A. Benediktsson, “Hedges detection using local directional features and support vector data description,” *Proceedings of 2012 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 2320 – 2323, Munich, Germany, July 22-27, 2012.
- (54) Ö. Aytikin, M. Dalla Mura, İ. Ulusoy, J.A. Benediktsson “CLASSIFICATION OF HYPERSPECTRAL IMAGES BASED ON WEIGHTED DMPS,” *Proceedings of 2012 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 4154 – 4157, Munich, Germany, July 22-27, 2012.
- (55) J. Sigurdsson, M.O. Ulfarsson, J. R. Sveinsson, J.A. Benediktsson “A SMOOTH HYPERSPECTRAL UNMIXING METHOD USING CYCLIC DESCENT,” *Proceedings of 2012 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 3082 – 3085, Munich, Germany, July 22-27, 2012.
- (56) M. Chi, J. Bao, X. Chen, J.A. Benediktsson “INPUT-OUTPUT-CONSISTENT DOMAIN ADAPTATION ALGORITHM FOR REMOTE SENSING DATA CLASSIFICATION,” *Proceedings of 2012 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 4343 – 4346, Munich, Germany, July 22-27, 2012.
- (57) B. Rasti, M.O. Ulfarsson, J. R. Sveinsson, J.A. Benediktsson “HYPERSPECTRAL IMAGE DENOISING USING 3DWAVELETS,” 2012 *Proceedings of IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 1349 – 1352, Munich, Germany, July 22-27, 2012.

- (58) F. Palsson, M.O. Ulfarsson, J. R. Sveinsson, J.A. Benediktsson, "A NEW PANSHARPENING METHOD USING AN EXPLICIT IMAGE FORMATION MODEL REGULARIZED VIA TOTAL VARIATION," *2012 Proceedings of IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 2288 – 2291, Munich, Germany, July 22-27, 2012.
- (59) F. Palsson, M.O. Ulfarsson, J. R. Sveinsson, J.A. Benediktsson, "SAR image denoising using Total variation based regularization with SURE-based optimization of the regularization parameter," *Proceedings of 2012 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 2160 – 2163, Munich, Germany, July 22-27, 2012.
- (60) M. Pedernana, P.R. Marpu, M. Dalla Mura, J.A. Benediktsson and L. Bruzzone, "A NOVEL SUPERVISED FEATURE SELECTION TECHNIQUE BASED ON GENETIC ALGORITHMS," *Proceedings of 2012 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 60-63, Munich, Germany, July 22-27, 2012.
- (61) N. Falco, P.R. Marpu and J.A. Benediktsson, "A COMPARISON OF ITPCA AND IRMAD FOR AUTOMATIC CHANGE DETECTION USING INITIAL CHANGE," *Proceedings of 2012 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 6769 – 6772, Munich, Germany, July 22-27, 2012.
- (62) J. Bao, M. Chi, and J.A. Benediktsson, "When Spectral Derivative Features Working for the Supervised Classification of Remote Sensing Data: an Experimental Evaluation Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS), 2012 4th Workshop on, Shanghai, China, June 4-7, 2012.
- (63) J. Li, P.R. Marpu, A. Plaza, J.Biucas Dias, J.A. Benediktsson, "A New Multiple Classifier System for Semi-Supervised Analysis of Hyperspectral Images, Proceedings, 1st International Conference on Pattern Recognition Application and Methods (ICPRAM 2012), pp. 406-4011, Algarve, Portugal, Feb. 6-8, 2012.
- (64) Mattia Pedernana, Prashanth R. Marpu, Mauro Dalla Mura, Jon Atli Benediktsson, and Lorenzo Bruzzone, "Fusion of hyperspectral and lidar data using morphological attribute profiles," *Proc. SPIE 8180, 81801G (2011)*
- (65) Prashanth Reddy Marpu, Kun-Shan Chen, and Jon Atli Benediktsson, "Spectral-spatial classification of polarimetric SAR data using morphological attribute profiles, *Proc. SPIE 8180, 81800K (2011)*
- (66) K. Bernard, Y. Tarabalka, J. Angolo, J. Chanussot and J.A. Benediktsson, "A Stochastic Minimum Spanning Forest approach for spectral-spatial classification of hyperspectral images," *Proceedings IEEE ICIP 2011*, pp. 1265-1268.
- (67) Gamba, P.; Villa, A.; Plaza, A.; Chanussot, J.; Benediktsson, J.A, Urban area product simulation for the EnMap hyperspectral sensor, *Geoscience and Remote Sensing Symposium (IGARSS), 2011 IEEE International Digital Object Identifier: 10.1109/IGARSS.2011.6049428*
Publication Year: 2011 , Page(s): 1259 - 1262

- (68) Marpu, Prashanth Reddy; Chen, Kun-Shan; Chu, Chih-Yuan; Benediktsson, Jon Atli; Spectral-spatial classification of polarimetric SAR data using morphological profiles, Synthetic Aperture Radar (AP SAR), 2011 3rd International Asia-Pacific Conference on
Publication Year: 2011 , Page(s): 1 - 3
- (69) Licciardi, Giorgio; Marpu, Prashanth Reddy; Benediktsson, Jon Atli; Chanussot, Jocelyn; Extended morphological profiles using auto-associative neural networks for hyperspectral data classification
Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS), 2011 3rd Workshop on
Digital Object Identifier: 10.1109/WHISPERS.2011.6080867
Publication Year: 2011 , Page(s): 1-4.
- (70) Villa, A.; Chanussot, J.; Benediktsson, J. A.; Jutten, C.; Unsupervised classification and spectral unmixing for sub-pixel labelling, Geoscience and Remote Sensing Symposium (IGARSS), 2011 IEEE International
Digital Object Identifier: 10.1109/IGARSS.2011.6048900
Publication Year: 2011 , Page(s): 71 - 74
- (71) Marpu, Prashanth; Gamba, Paolo; Benediktsson, Jon A.;
Hyperspectral change detection with IR-MAD and initial change mask,
Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS), 2011 3rd Workshop on
Digital Object Identifier: 10.1109/WHISPERS.2011.6080961
Publication Year: 2011 , Page(s): 1 - 4
- (72) Chi, Mingmin; Liu, Jun; Bao, Jiangfeng; Benediktsson, Jon Atli; Scalable semi-supervised classification of hyperspectral remote sensing data with spectral and spatial information Geoscience and Remote Sensing Symposium (IGARSS), 2011 IEEE International Digital Object Identifier: 10.1109/IGARSS.2011.6049562, Publication Year: 2011 , Page(s): 1700 - 1703
- (73) Marpu, Prashanth; Gamba, Paolo; Benediktsson, Jon A.;
Hyperspectral change detection using IR-MAD and feature reduction,
Geoscience and Remote Sensing Symposium (IGARSS), 2011 IEEE International, Digital Object Identifier: 10.1109/IGARSS.2011.6048907
Publication Year: 2011 , Page(s): 98 - 101
- (74) Peeters, Stijn; Marpu, Prashanth R; Benediktsson, Jon A; Dalla Mura, Mauro; Classification using Extended Morphological Attribute Profiles based on different feature extraction techniques, Geoscience and Remote Sensing Symposium (IGARSS), 2011 IEEE International
Digital Object Identifier: 10.1109/IGARSS.2011.6050221
Publication Year: 2011 , Page(s): 4453 - 4456
- (75) Dalla Mura, Mauro; Benediktsson, Jon Atli; Bruzzone, Lorenzo; “A general approach to the spatial simplification of remote sensing images based on morphological connected filters,” Geoscience and Remote Sensing Symposium (IGARSS), 2011 IEEE International
Digital Object Identifier: 10.1109/IGARSS.2011.6049423

Publication Year: 2011 , Page(s): 1239 – 1242 – Received **2nd place award in student paper competition.**

- (76) Tarabalka, Y.; Tilton, J.C.; Benediktsson, J.A.; Chanussot, J. “Marker-based Hierarchical Segmentation and classification approach for hyperspectral imagery,” *Acoustics, Speech and Signal Processing (ICASSP)*, 2011 IEEE International Conference on
Digital Object Identifier: 10.1109/ICASSP.2011.5946597
Publication Year: 2011 , Page(s): 1089 - 1092
- (77) Echès, Olivier; Benediktsson, Jon Atli; Dobigeon, Nicolas; Tourneret, Jean-Yves; “Joint spectral classification and unmixing using adaptative pixel neighborhoods,” *Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS)*, 2011 3rd Workshop on
Digital Object Identifier: 10.1109/WHISPERS.2011.6080897
Publication Year: 2011 , Page(s): 1 - 4
- (78) Fauvel, M.; Villa, A.; Chanussot, J.; Benediktsson, J. A.; “Mahalanobis kernel based on probabilistic principal component,” *Geoscience and Remote Sensing Symposium (IGARSS)*, 2011 IEEE International
Digital Object Identifier: 10.1109/IGARSS.2011.6050085
Publication Year: 2011 , Page(s): 3907 - 3910
- (79) J.A. Benediktsson, L. Bruzzone, J. Chanussot, M. Dalla Mura, P. Salembier and S. Valero, “Hierarchical Analysis of Remote Sensing Data: Morphological Attribute Profiles and Binary Partition Trees,” *Proceedings of Mathematical Morphology and Its Applications to Image and Signal Processing 2011*, pp. 306-319, Springer Verlag, Berlin 2011
- (80) M. Dalla Mura, J.A. Benediktsson and L. Bruzzone, Self-Dual Attribute Profiles for Analysis of Remote Sensing Imagery, *Proceedings of Mathematical Morphology and Its Applications to Image and Signal Processing 2011*, pp. 320-330, Springer Verlag, Berlin 2011
- (81) A. Villa, J. A. Benediktsson, J. Chanussot and C. Jutten, “Supervised Super Resolution to Improve the Resolution of Hyperspectral Image Classification Maps,” *“Image and Signal Processing for Remote Sensing XVI – SPIE 7830*, Toulouse, France, 2010, pp. 78300J1 – 78300J-8, SPIE Publications, Bellingham, WA, 2010.
- (82) M. Dalla Mura, J. A. Benediktsson and L. Bruzzone, “Alternative Sequential Filters with Morphological Attributes for the Analysis of Remote Sensing Images,” *“Image and Signal Processing for Remote Sensing XVI - SPIE Proceedings Vol. 7477*, Toulouse, France, 2010, pp. 783006-1 – 783006-8, SPIE Publications, Bellingham, WA, 2010.
- (83) N. Falco, M. Dalla Mura, Francesca Bovolo, J. A. Benediktsson and L. Bruzzone, “Study on the Capabilities of Morphological Attribute Profiles in Change Detection on VHR Images,” *Image and Signal Processing for Remote Sensing XVI - SPIE Proceedings Vol. 7477*, Toulouse, France, 2010, pp. 783016-1 – 783016-10, SPIE Publications, Bellingham, WA, 2010.
- (84) M. Dalla Mura, A. Villa, J.A. Benediktsson, J. Chanussot and L. Bruzzone, “Classification of Hyperspectral Images by Using Attribute Morphological Profiles and Independent Component Analysis,” *Second Workshop on*

- Hyperspectral Image and Signal Processing*, Reykjavik, Iceland, June 14-16, 2010.
- (85) A. Villa, J.A. Benediktsson, J. Chanussot and C. Jutten, "Independent Component Discriminant Analysis for Hyperspectral Image Classification," *Second Workshop on Hyperspectral Image and Signal Processing*, Reykjavik, Iceland, June 14-16, 2010.
- (86) A. Villa, M. Fauvel, J. Chanussot, and J.A. Benediktsson, "Mahalanobis Kernel for the Classification of Hyperspectral Images," *Proceedings of the 2010 IEEE Geoscience and Remote Sensing Symposium (IGARSS 2010)*, pp. 3724-3727, Honolulu, Hawaii, July 25-30, 2010.
- (87) Y. Tarabalka, J.A. Benediktsson, J. Chanussot, and J.C. Tilton, "A Multiple Classifier Approach for Spectral-Spatial Classification of Hyperspectral Data," *Proceedings of the 2010 IEEE Geoscience and Remote Sensing Symposium (IGARSS 2010)*, pp. 1410-1413, Honolulu, Hawaii, July 25-30, 2010.
- (88) M. Dalla Mura, J.A. Benediktsson, and L. Bruzzone, "Classification of Hyperspectral Images with Extended Attribute Profiles and Feature Extraction Techniques," *Proceedings of the 2010 IEEE Geoscience and Remote Sensing Symposium (IGARSS 2010)*, pp. 76-79, Honolulu, Hawaii, July 25-30, 2010.
- (89) A. Villa, J. Chanussot, J.A. Benediktsson, M. Ulfarsson, and C. Jutten, "Super-Resolution: An Efficient Method to Improve Spatial Resolution of Hyperspectral Images," *Proceedings of the 2010 IEEE Geoscience and Remote Sensing Symposium (IGARSS 2010)*, pp. 2003-2006, Honolulu, Hawaii, July 25-30, 2010.
- (90) G. Troglio, J.A. Benediktsson, G. Moser, and S.B. Serpico, "Crater Detection Based on Marked Point Processes," *Proceedings of the 2010 IEEE Geoscience and Remote Sensing Symposium (IGARSS 2010)*, pp. 1378-1381, Honolulu, Hawaii, July 25-30, 2010.
- (91) F. Palsson, J.R. Sveinsson, J.A. Benediktsson, and H. Aanaes, "Image Fusion for Classification of High Resolution Images Based on Mathematical Morphology," *Proceedings of the 2010 IEEE Geoscience and Remote Sensing Symposium (IGARSS 2010)*, pp. 492-495, Honolulu, Hawaii, July 25-30, 2010.
- (92) G. Troglio, J.A. Benediktsson, G. Moser, S.B. Serpico and E. Stefansson, "Unsupervised Change-Detection in Retinal Images by a Multi-Classifer Approach," *Proceedings of the Ninth Workshop on Multiple Classifier Systems (MCS 2010)*, Cairo, Egypt, 2010, pp. 94-103, Springer-Verlag, Berlin 2010.
- (93) S. Valero, J. Chanussot, J.A. Benediktsson, H. Talbot, B. Waske, "Directional Mathematical Morphology for the Detection of the Road Network in Very High Resolution Remote Sensing Images," *Proceedings of the 2009 IEEE Conference on Image Processing (ICIP 2009)*, Cairo, Egypt, Nov. 7 – Nov. 10, 2009, pp. 3725 – 3728.
- (94) S. Valero, J. Chanussot, J.A. Benediktsson, H. Talbot, "D'etection automatique du r'eseau vasculaire r'etinien bas'ee sur la morphologie

- directionnelle et la fusion de d'ecision", GRETSI – *Symposium on Signal and Image Processing*, Dijon, France, Sept. 8-12, 2009.
- (95) G. Troglia, A. Nappo, J.A. Benediktsson, S.B. Serpico and E. Stefansson, "Automatic Change Detection of Retinal Images," *Proceedings World Congress 2009 on Medical Physics and Biomedical Engineering*, Munich Germany, Sept. 8-12, 2009, pp. 281-284. Springer-Verlag, Berlin 2009.
- (96) J. Chanussot, J.A. Benediktsson, M. Fauvel and Y. Tarabalka, "Spectral-spatial analysis in hyperspectral remote sensing: from morphological profiles to classified segmentation," *SPIE Conference on Image and Signal Processing for Remote Sensing*, pp. 74770E-1 – 74770E-14, Berlin, Germany Aug 31 – Sept. 1, 2009.
- (97) M. Dalla Mura, J. A. Benediktsson and L. Bruzzone, "Modeling structural information for building extraction with morphological attribute filters," *Image and Signal Processing for Remote Sensing XV - SPIE Proceedings Vol. 7477*, pp. 747703-1 – 747703-9, Germany Aug 31 – Sept. 1, 2009.
- (98) Y. Tarabalka, J. Chanussot and J.A. Benediktsson, "Classification of Hyperspectral Images Using Automatic Marker Selection and Minimum Spanning Forest," *First Workshop on Hyperspectral Image and Signal Processing*, Grenoble, France, Aug. 26-28, 2009.
- (99) B. Waske, S. van der Linden, J.A. Benediktsson, A. Rabe and P. Hostert, "Impact of different morphological profiles on the classification accuracy of urban hyperspectral data," *First Workshop on Hyperspectral Image and Signal Processing*, Grenoble, France, Aug. 26-28, 2009.
- (100) G. Troglia, J.A. Benediktsson, G. Moser, S.B. Serpico, J. Le Moigne, "Automatic Extraction of Planetary Image Features," *Third IEEE International Conference on Space Mission Challenges for Information Technology (SMC-IT 2009)*, pp. 211-215, July 19-23 2009 (Digital Object Identifier 10.1109/SMC-IT.2009.32)
- (101) Y. Tarabalka, J. Chanussot and J.A. Benediktsson, "Classification Based Marker Selection for Watershed Transform of Hyperspectral Images," *Proceedings of the 2009 IEEE Geoscience and Remote Sensing Symposium (IGARSS 2009)*, vol. III, pp. 105-108. Cape Town, South Africa, July 12-19, 2009.
- (102) A. Villa, J. Chanussot, C. Jutten, J.A. Benediktsson and S. Moussaoui, On the Use of ICA for Hyperspectral Image Analysis, *Proceedings of the 2009 IEEE Geoscience and Remote Sensing Symposium (IGARSS 2009)*, vol. IV, pp. 97-100, Cape Town, South Africa, July 12-19, 2009.
- (103) X-L Wang, B. Waske, J.A. Benediktsson, "Ensemble Methods for Spectral-Spatial Classification of Urban Hyperspectral Data," *Proceedings of the 2009 IEEE Geoscience and Remote Sensing Symposium (IGARSS 2009)*, vol. IV, pp. 944-947, Cape Town, South Africa, July 12-19, 2009.
- (104) J.R. Sveinsson, J.A. Benediktsson and M.O. Ulfarsson, "Speckle Reducation of SAR Images Using Sure-Based Adaptive Sigmoid Thresholding in the Wavelet Domain," *Proceedings of the 2009 IEEE Geoscience and Remote Sensing Symposium (IGARSS 2009)*, vol. IV, pp. 462-465, Cape Town, South Africa, July 12-19, 2009.

- (105) J.R. Sveinsson, B. Waske and J.A. Benediktsson, "Speckle Reduction of TERRASAR-X Imagery Using TV Segmentation, *Proceedings of the 2009 IEEE Geoscience and Remote Sensing Symposium (IGARSS 2009)*, vol. IV, bls. 458-461, Cape Town, South Africa, July 12-19, 2009.
- (106) M. Fauvel, J. Chanussot and J.A. Benediktsson, "Kernel Principal Component Analysis for the Construction of the Extended Morphological Profile," *Proceedings of the 2009 IEEE Geoscience and Remote Sensing Symposium (IGARSS 2009)*, vol. II, pp. 843-846, Cape Town, South Africa, July 12-19, 2009.
- (107) B. Waske, J.A. Benediktsson and J.R. Sveinsson, , "Fusion of Multisource Data Sets from Agricultural Areas for Improved Land Cover Classification," *Proceedings of the 2009 IEEE Geoscience and Remote Sensing Symposium (IGARSS 2009)*, vol. IV, bls. 952-955, Cape Town, South Africa, July 12-19, 2009.
- (108) M. Dalla Mura, J.A. Benediktsson, B. Waske and L. Bruzzone, "Morphological Attribute Filters for the Analysis of Very High Resolution Remote Sensing Images," *Proceedings of the 2009 IEEE Geoscience and Remote Sensing Symposium (IGARSS 2009)*, vol. III, pp. 97-100, Cape Town, South Africa, July 12-19, 2009.
- (109) X. Ceamanos, B. Waske, J.A. Benediktsson, J. Chanussot, J. R. Sveinsson, "Ensemble Strategies for Classifying Hyperspectral Remote Sensing Data," *Proceedings of the Eighth Workshop on Multiple Classifier Systems (MCS 2009)*, Reykjavik, Iceland, June 10-12, 2009, pp. 62-71, Springer-Verlag, Berlin 2009.
- (110) B. Waske, J.A. Benediktsson and J.R. Sveinsson, "Classifying Remote Sensing Data with Support Vector Machines and Imbalanced Training Data Imbalanced Training Data," *Proceedings of the Eighth Workshop on Multiple Classifier Systems (MCS 2009)*, Reykjavik, Iceland, June 10-12, 2009, pp. 375-384, Springer-Verlag, Berlin 2009.
- (111) M. Chi, Y. Miao, Y. Tang, J.A. Benediktsson, X. Huang, "Hierarchical Ensemble Support Cluster Machine," *Proceedings of the Eighth Workshop on Multiple Classifier Systems (MCS 2009)*, Reykjavik, Iceland, June 10-12, 2009, pp. 252-261, Springer-Verlag, Berlin 2009.
- (112) Y. Tarabalka, J.A. Benediktsson and J. Chanussot, "Classification of Hyperspectral Data Using Support Vector Machines and Adaptive Neighborhoods" in *Proceedings of the 2009 EARSeL SIG IS Workshop*, Tel Aviv, Israel, March 2009.
- (113) M. Fauvel, J. Chanussot and J.A. Benediktsson, "Adaptive Pixel Neighborhood Definition for the Classification of Hyperspectral Images with Support Vector Machines and Composite Kernel," *Proceedings 2008 IEEE International Conference on Image Processing*, pp. 1884-1887, San Diego, CA, Oct. 12-15, 2008.
- (114) G. Troglio, J.A. Benediktsson, S.B. Serpico, G. Moser, R.A. Karlsson, G.H. Halldorsson and E. Stefansson, "Automatic Registration of Retina Images Based on Genetic Techniques, *Proceedings IEEE EMBC*, pp. 5419-5424, August 20-24 2008.

- (115) Y. Tarabalka, J. Chanussot, J.A. Benediktsson, J. Angulo and M. Fauvel, "Segmentation and Classification of Hyperspectral Data Using Watershed," Proceedings 2008 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'08), pp. III-652-III-655, Boston, July 6- July 11, 2008.
- (116) M. Chi, K. Qian and J.A. Benediktsson, "Cluster-based Ensemble Classification for Hyperspectral Remote Sensing Images," 2
- (117) Proceedings 2008 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'08), pp. I-209 – I-212, Boston, July 6- July 11, 2008.
- (118) B. Waske and J.A. Benediktsson, "Semi-Supervised Ensembles for Classifying Remote Sensing Data," Proceedings 2008 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'08), pp. II-105 – II-108, Boston, July 6- July 11, 2008.
- (119) J.A. Benediktsson, X. C. Garcia, B. Waske, M. Fauvel, J. R. Sveinsson, and Chanussot, "Ensemble Methods for Classification of Hyperspectral Data," Proceedings 2008 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'08), pp. I-62 – I-65, Boston, July 6- July 11, 2008.
- (120) A. Villa, M. Fauvel, J. Chanussot, P. Gamba, J.A. Benediktsson, "Gradient Optimization for Multiple Kernel's Parameters in Support Vector Machines Classification," Proceedings 2008 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'08), pp. IV-224 – IV – 227, Boston, July 6- July 11, 2008.
- (121) J.R. Sveinsson, Z. Semar, J.A. Benediktsson, "Speckle Reduction of SAR Images in the Bandlet Domain," Proceedings 2008 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'08), pp. III-1158 – III-1161, Boston, July 6- July 11, 2008.
- (122) J.R. Sveinsson, J.A. Benediktsson, "Combined Wavelet and Contourlet Denoising of SAR Images," Proceedings 2008 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'08), pp. III-1150 – III-1153, Boston, July 6- July 11, 2008.
- (123) B. Waske and J.A. Benediktsson, "Decision Fusion of Multitemporal SAR and Multispectral Imagery for Improved Land Cover Classification," Mapping Without the Sun, pp. 1-5, Chengdu, China, Sept. 25-27, 2007.
- (124) A. Plaza, A. Mueller, R. Richter, T. Skauli, Z. Malenovsky, J. Bioucas, S. Hofer, J. Chanussot, C. Jutten, V. Carrere, I. Baarstad, P. Kaspersen, J. Nieke, K. Itten, T. Hyvarinen, P. Gamba, F. Dell'Acqua, J.A. Benediktsson, M. E. Schaepman, J.G.P.W. Clevers and B. Zagajewski, "HYPER-I-NET: European Research Network on Hyperspectral Imaging," 2007 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'07), Barcelona, Spain, July 23- July 27, 2007.
- (125) P. Gamba, A.J. Plaza, J.A. Benediktsson and J. Chanussot, "European perspectives in hyperspectral data analysis," 2007 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'07), Barcelona, Spain, July 23- July 27, 2007.
- (126) J.R. Sveinsson, H.Aanæs and J.A. Benediktsson, "Smoothing of Fused Spectral Consistent Satellite Images with TV-based Edge Detection," 2007

- IEEE International Geoscience and Remote Sensing Symposium (IGARSS'07), Barcelona, Spain, July 23- July 27, 2007.
- (127) J.R. Sveinsson, H.Aanæs and J.A. Benediktsson, "Combined Wavelet and Curvelet Denoising of SAR Images using TV segmentation," 2007 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'07), Barcelona, Spain, July 23- July 27, 2007.
 - (128) H.Aanæs, J.R. Sveinsson, T. Bøvith and J.A. Benediktsson, A.A. Nielsen and S.A. Gudmundsson, "On Spatial Priors for Satellite Image Fusion," 2007 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'07), Barcelona, Spain, July 23- July 27, 2007.
 - (129) B. Waske, G. Menz and J.A. Benediktsson, "Fusion of Support Vector Machines for Classifying SAR and Multispectral Imagery from Agricultural Areas," 2007 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'07), Barcelona, Spain, July 23- July 27, 2007.
 - (130) G.H. Halldorsson, R.A. Karlsson, S.H. Hardarson, M. Dalla Mura, T. Eysteinnsson, J.M. Beach, E. Stefansson and J.A. Benediktsson, "Automatic Retinal Oximetry," Workshop on Information Optics 2007 (WIO07), Reykjavik, Iceland, June 25-30, 2007, AIP Publishers, NY, USA.
 - (131) M. Dalla Mura, J. A. Benediktsson, L. Bruzzone and F. Bovolo, "A Novel Technique Based on Morphological Filters for Change Detection in Optical Remote Sensing Images," Workshop on Information Optics 2007 (WIO07), Reykjavik, Iceland, June 25-30, 2007, AIP Publishers, NY, USA.
 - (132) M. Fauvel, J. Chanussot, J.A. Benediktsson and J.R. Sveinsson, "Spectral and Spatial Classification of Hyperspectral Data Using SVMs and Morphological Profiles," 2007 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'07), Barcelona, Spain, July 23- July 27, 2007.
 - (133) J.A. Benediktsson, J. Chanussot and M. Fauvel, "Multiple Classifier Systems in Remote Sensing: From Basics to Recent Developments," M. Haindl, J. Kittler, and F. Roli (Eds.): MCS 2007, LNCS 4472, pp. 501–512, Springer Verlag, Berlin 2007.
 - (134) M. Fauvel, J. Chanussot and J.A. Benediktsson, "How Transferable Are Spatial Features for the Classification of Very High Resolution Remote Sensing Data?," Urban Remote Sensing Joint Symposium, pp. 1-5, April 11-13, 2007.
 - (135) J.Ae.Palmason, J.A. Benediktsson, J.R. Sveinsson, and J.Chanussot, "Fusion of Morphological and Spectral Information for Classification of Hyperspectral Urban Remote Sensing Data, 2006 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'06), Denver, Colorado, July 31-August 4, 2006.
 - (136) M. Fauvel, J. Chanussot, and J.A. Benediktsson, "A Combined Support Vector Machines Classification Based on Decision Fusion," 2006 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'06), Denver, Colorado, July 31- August 4, 2006.
 - (137) J.R. Sveinsson, J.A. Benediktsson and H. Aanæs, "Smoothing of Fused Spectral Consistent Satellite Images, 2006 IEEE International Geoscience and

- Remote Sensing Symposium (IGARSS'06), Denver, Colorado, July 31-August 4, 2006.
- (138) S.R. Joelsson, J.A. Benediktsson and J.R. Sveinsson, "Feature Selection for Morphological Feature Extraction Using Random Forests," Proceedings of the 2006 Nordic Signal Processing Symposium (NORSIG 2006), Reykjavik, Iceland, pp. 10-13, June 7-9, 2006.
 - (139) H. Aanæs, J.R. Sveinsson, A.Aa. Nielsen, J.A. Benediktsson and T. Bövith, "Spectrally Consistent Satellite Image Fusion with Improved Image Priors," Proceedings of the 2006 Nordic Signal Processing Symposium (NORSIG 2006), Reykjavik, Iceland, pp. 14-17, June 7-9, 2006.
 - (140) A. Nappo, J.A. Benediktsson, S.B. Serpico, S.R. Joelsson, G. Moser, R.A. Karlsson, G.H. Halldorsson, S.H. Hardarson and E. Stefansson, "Unsupervised Change-Detection in Color Fundus Images of the Human Retina," Proceedings of the 2006 Nordic Signal Processing Symposium (NORSIG 2006), Reykjavik, Iceland, pp. 134-137, June 7-9, 2006.
 - (141) S.R. Joelsson, R.A. Karlsson, G.H. Halldorsson, S.H. Hardarson, T. Eysteinnsson, E. Stefansson and J.A. Benediktsson, "Automatic Evaluation of Fundus Image Quality," Proceedings of the 2006 Nordic Signal Processing Symposium (NORSIG 2006), Reykjavik, Iceland, pp. 138-141, June 7-9, 2006.
 - (142) H. Hauksdottir, C. Jutten, J. Chanussot, F. Schmidt, J.A. Benediktsson and S. Douté "The Physical Meaning of Independent Components and Artifact Removal of Hyperspectral Data from Mars Using ICA," Proceedings of the 2006 Nordic Signal Processing Symposium (NORSIG 2006), Reykjavik, Iceland, pp. 226-230, June 7-9, 2006. (Received **Best Student Paper Award**)
 - (143) M. Fauvel, J. Chanussot and J.A. Benediktsson, "Kernel Principal Component Analysis for Feature Reduction in Hyperspectral Images Analysis," Proceedings of the 2006 Nordic Signal Processing Symposium (NORSIG 2006), Reykjavik, Iceland, pp. 238-241, June 7-9, 2006.
 - (144) B.B Saevarsson, J.R. Sveinsson and J.A. Benediktsson, "Combined Curvelet and Wavelet Denoising," Proceedings of the 2006 Nordic Signal Processing Symposium (NORSIG 2006), Reykjavik, Iceland, pp. 318-321, June 7-9, 2006.
 - (145) M. Fauvel, J. Chanussot and J.A. Benediktsson, "Evaluation of Kernels for Multiclass Classification of Hyperspectral Remote Sensing Data," Proceedings of ICASSP 2006, Toulouse, France, pp. II-813 – II-816, May 2006.
 - (146) M. Fauvel, J.A. Palmason, J.A. Benediktsson, J. Chanussot and J.R. Sveinsson, "Classification of Remote Sensing Imagery with High Spatial Resolution," Proceedings of European Symposium on Remote Sensing, Conference on Image and Signal Processing XI, Proc. of SPIE Vol. 5982, pp. 598201-1 - 598201-15, Bruges, Belgium, September 20-22, 2005.
 - (147) S.R. Joelsson, J.A. Benediktsson and J.R. Sveinsson, Random Forest Classifiers for Hyperspectral Data, IEEE International Geoscience and Remote Sensing Symposium (IGARSS'05), Vol. 1, pp.160 – 163, Seoul, Korea, 25–29 July 2005.

- (148) J.A. Palmason, J.A. Benediktsson, J.R. Sveinsson, and J. Chanussot, "Classification of Hyperspectral Data from Urban Areas using Morphological Preprocessing and Independent Component Analysis," IEEE International Geoscience and Remote Sensing Symposium (IGARSS'05), Vol. 1, pp. 176-179, Seoul, Korea, 25–29 July 2005.
- (149) S.O. Sigurjonsson, J.A. Benediktsson, G. Linsini, P. Gamba, J.R. Sveinsson and J. Chanussot, "Street Tracking Based on SAR Data from Urban Areas," IEEE International Geoscience and Remote Sensing Symposium (IGARSS'05), Vol. 2, pp. 1273-1279, Seoul, Korea, 25–29 July 2005.
- (150) A. Vesteinsson, J.R. Sveinsson, H. Aanes, and J.A. Benediktsson, "Spectral Consistent Satellite Image Fusion: Using a High Resolution Panchromatic and Low Resolution Multi-spectral Images," IEEE International Geoscience and Remote Sensing Symposium (IGARSS'05), Vol. 4, pp. 2834-2837, Seoul, Korea, 25–29 July 2005.
- (151) M. Fauvel, J. Chanussot, and J.A. Benediktsson, "Fusion of Methods for the Classification of Remote Sensing Images from Urban Areas," IEEE International Geoscience and Remote Sensing Symposium (IGARSS'05), Vol. 4, pp. 2819-2822, Seoul, Korea, 25–29 July 2005.
- (152) B.B. Saevarsson, J.R. Sveinsson, and J.A. Benediktsson, "Translation Invariant Combined Denoising Algorithm," 2005 IEEE International Symposium on Circuits and Systems (ISCAS 2005), pp. 4241-4244, Kobe, Japan, 23–26 May 2005.
- (153) J.A. Palmason, J.A. Benediktsson, and J.R. Sveinsson, "Classification of Hyperspectral ROSIS Data from Urban Areas," Proceedings of International Conference on Recent Advances in Space Technologies (RAST 2005), pp. 63-69, Istanbul, Turkey, 9–11 June 2005.
- (154) P.O. Gislason, J.A. Benediktsson, and J.R. Sveinsson, "Random Forest Classification of Multisource Remote Sensing and Geographic Data," Proceedings of the 2004 International Geoscience and Remote Sensing (IGARSS 2004) – CD Rom, Anchorage, AK, Sept. 2004.
- (155) J. Chanussot, J.A. Benediktsson, and M. Vincent, "Classification of Remote Sensing Images from Urban Areas Using a Fuzzy Model," Proceedings of the 2004 International Geoscience and Remote Sensing (IGARSS 2004) – CD Rom, vol. X, pp. 2054-2056, Anchorage, AK, Sept. 2004.
- (156) B.B. Saevarsson, J.R. Sveinsson, and J.A. Benediktsson, "Combined Wavelet and Curvelet Denoising of SAR Images," Proceedings of the 2004 International Geoscience and Remote Sensing (IGARSS 2004) – CD Rom, Anchorage, AK, Sept. 2004.
- (157) J.A. Benediktsson, J.A. Palmason, J.R. Sveinsson, and J. Chanussot, "Decision Level Fusion in Classification of Hyperspectral Data from Urban Areas," Proceedings of the 2004 International Geoscience and Remote Sensing (IGARSS 2004) – CD Rom, Anchorage, AK, Sept. 2004.
- (158) P.O. Gislason, J.A. Benediktsson, and J.R. Sveinsson, "Random Forest Classification of Multisource Remote Sensing and Geographic Data," Proceedings of the 2004 International Geoscience and Remote Sensing (IGARSS 2004) – CD Rom, Anchorage, AK, Sept. 2004.

- (159) G.H. Halldorsson, J.A. Benediktsson, and J.R. Sveinsson, "Source Based Feature Extraction for Support Vector Machines in Hyperspectral Classification," Proceedings of the 2004 International Geoscience and Remote Sensing (IGARSS 2004) – CD Rom, Anchorage, AK, Sept. 2004.
- (160) P.O. Gislason, J.A. Benediktsson, and J.R. Sveinsson, "Random Forests for land cover classification," Proceedings of Pattern Recognition in Remote Sensing 2004 (PRRS '04) – CD Rom, Kingston University, August 2004.
- (161) G.H. Halldorsson, J.A. Benediktsson, G.M. Zoega, E. Stefansson, and T. Eysteinnsson, "Automatic Registration of Spectrophotometric Retinal Images," 2004 IEEE Nordic Signal Processing Workshop (Norsig 2004), Helsinki, June 10, 2004 (CD Rom).
- (162) B.B. Saevarsson, J.R. Sveinsson, and J.A. Benediktsson, "Time Invariant Curvelet Denoising," 2004 IEEE Nordic Signal Processing Workshop (Norsig 2004), Helsinki, June 10, 2004 (CD Rom).
- (163) J.A. Benediktsson, J.A. Palmason, and J.R. Sveinsson, "Morphological Pre-Processing for Classification of Hyperspectral Data from Urban Areas," Proceedings of IEEE Workshop on Advances in Techniques for Analysis of Remotely Sensed Data, Oct. 2003, IEEE Workshop on Advances in Techniques for Analysis of Remotely Sensed Data (a workshop honoring Professor David A. Landgrebe), NASA Goddard Space Flight Center Visitor Center, Greenbelt, Maryland, USA, Oct. 27 – 28, 2003, IEEE Publications, Piscataway, NJ, USA, 8 pages on CD Rom.
- (164) J.A. Benediktsson and J.R. Sveinsson, "Classification Methods for Multisource Remote Sensing Data," Proceedings of the 2003 Tyrrhenian International Workshop on Remote Sensing, E.D. Mese (Ed.), pp. 3-16, Edizioni Plus, Universita di Pisa, Sept. 2003.
- (165) G.H. Halldorsson, J.A. Benediktsson, and J.R. Sveinsson, "Support Vector Machines in Multisource Classification," Proceedings of the 2003 International Geoscience and Remote Sensing (IGARSS 2003), vol. III, pp. 2054-2056, Toulouse, France, July 2003.
- (166) M.O. Ulfarsson, J.R. Sveinsson, and J.A. Benediktsson, "Wavelet Footprints for Speckle Reduction of SAR Images," Proceedings of the 2003 International Geoscience and Remote Sensing (IGARSS 2003), vol. VI, pp. 4092-4094, Toulouse, France, July 2003.
- (167) B.B. Saevarsson, J.R. Sveinsson, and J.A. Benediktsson, "Speckle Reduction of SAR Images Using Adaptive Curvelet Domain," Proceedings of the 2003 International Geoscience and Remote Sensing (IGARSS 2003), vol. VI, pp. 4083-4085, Toulouse, France, July 2003.
- (168) J.A. Palmason, J.A. Benediktsson, and K. Arnason, "Morphological Transformations and Feature Extraction for Urban Data with High Spectral and Spatial Resolution," Proceedings of the 2003 International Geoscience and Remote Sensing (IGARSS 2003), vol. I, pp. 470-472, Toulouse, France, July 2003.
- (169) J. Chanussot, J.A. Benediktsson, and M. Pesaresi, "On the Use of Alternated Sequential Filters for the Classification of Remote Sensing Images from

- Urban Areas,” Proceedings of the 2003 International Geoscience and Remote Sensing (IGARSS 2003), vol. I, pp. 473-475, Toulouse, France, July 2003.
- (170) J.R. Sveinsson and J.A. Benediktsson, “Double Density Wavelet Transformation for Speckle Reduction of SAR Images,” Proceedings of the International Geoscience and Remote Sensing (IGARSS 2002), vol. I, pp. 113-115, Toronto, Canada, June 2002.
- (171) M.O. Ulfarsson, J.R. Sveinsson, and J.A. Benediktsson, “Speckle Reduction of SAR Images in The Curvelet Domain, Proceedings of the International Geoscience and Remote Sensing (IGARSS 2002), vol. I, pp. 315-317, Toronto, Canada, June 2002.
- (172) M.O. Ulfarsson, J.A. Benediktsson, and J.R. Sveinsson, “Wavelet Feature Extraction and Genetic Feature Selection for Multisource Data,” Proceedings of the International Geoscience and Remote Sensing (IGARSS 2002), vol. VI, pp. 3329-331, Toronto, Canada, June 2002.
- (173) S.K. Stefansson, J.A. Benediktsson and J.R. Sveinsson, “An Investigation of Multiple Self-Organizing Feature Maps for Classification of Multisource Data,” Proceedings of the International Geoscience and Remote Sensing (IGARSS 2002), vol. I, pp. 494-496, Toronto, Canada, June 2002.
- (174) J.R. Sveinsson and J.A. Benediktsson, “Review of Applications of Wavelets in Speckle Reduction and Enhancement of SAR Images,” Proceedings of European Symposium on Remote Sensing, Conference on Image and Signal Processing VII, Toulouse, France, September 2001.
- (175) J.A. Benediktsson, K. Arnason, and M. Pesaresi, “The Use of Morphological Profiles in Classification of Data from Urban Areas,” Proceedings of IEEE/ISPRS Joint Workshop on Remote Sensing over Urban Areas (Urban 2001), p 30-34, Rome, Italy, Nov. 2001.
- (176) J.R. Sveinsson and J.A. Benediktsson, “Review of Applications of Wavelets in Speckle Reduction and Enhancement of SAR Images,” to appear in Proceedings of European Symposium on Remote Sensing, Conference on Image and Signal Processing VII, Toulouse, France, September 2001.
- (177) J.R. Sveinsson, M.O. Ulfarsson, and J.A. Benediktsson, "Cluster-Based Feature Extraction and Data Fusion in the Wavelet Domain," Proceedings of IGARSS 2001, CD Rom, Sydney, Australia, July 9-13, 2001.
- (178) J.R. Sveinsson and J.A. Benediktsson, “Speckle Reduction in the Complex Wavelet Domain,” Proceedings of IGARSS 2001, CD Rom, Sydney, Australia, July 9-13, 2001.
- (179) J.A. Benediktsson and M. Pesaresi, “Feature Extraction and Classification of Urban High-Resolution Satellite Imagery Based on Morphological Preprocessing,” Proceedings of IGARSS 2001, CD Rom, Sydney, Australia, July 9-13, 2001.
- (180) G.J. Briem, J.A. Benediktsson, and J.R. Sveinsson, “Use of Multiple Classifiers in Classification of Data from Multiple Data Sources,” Proceedings of IGARSS 2001, CD Rom, Sydney, Australia, July 9-13, 2001.
- (181) M.O. Ulfarsson, J.A. Benediktsson, and J.R. Sveinsson, “Data Fusion and Feature Extraction in the Wavelet Domain,” Proceedings of Geo-Spatial

- Knowledge Processing for Natural Resource Management, pp. 49-53, University of Insubria, Varese, Italy, June 28, 2001
- (182) M. Pesaresi and J.A. Benediktsson, "Classification of Urban High Resolution Imagery Using Morphological and Neural Approaches," Proceedings of the 2000 International Geoscience and Remote Sensing Symposium (IGARSS '00), pp. 3066-68, Honolulu, Hawaii, July 24 –28, 2000.
- (183) M. Petrakos, I. Kanellopoulos, J.A. Benediktsson and M. Pesaresi, "The Effect of Correlation on the Combined Accuracy in Decision Level Fusion," Proceedings of the 2000 International Geoscience and Remote Sensing Symposium (IGARSS '00), pp. 2623-25, Honolulu, Hawaii, July 24 –28, 2000.
- (184) J.R. Sveinsson and J.A. Benediktsson, "Data Fusion and Feature Extraction Using Tree Structured Filter Banks," Proceedings of the 2000 International Geoscience and Remote Sensing Symposium (IGARSS '00), pp. 2617-19, Honolulu, Hawaii, July 24 –28, 2000.
- (185) J.R. Sveinsson and J.A. Benediktsson, "Speckle Reduction of SAR Images Using Wavelet-Domain Hidden Markov Models," Proceedings of the 2000 International Geoscience and Remote Sensing Symposium (IGARSS '00), pp. 1666-68, Honolulu, Hawaii, July 24 –28, 2000.
- (186) J.A. Benediktsson, H. Benediktsson, and K. Árnason, "Absolute Neuro-Fuzzy Classification of Remote Sensing Data," Proceedings of the 2000 International Geoscience and Remote Sensing Symposium (IGARSS '00), pp. 969-71, Honolulu, Hawaii, July 24 –28, 2000.
- (187) J.R. Sveinsson and J.A. Benediktsson, "Data Fusion based on Wavelet Transforms," Proceedings of 3rd Workshop on Fusion of Earth Data, Sophia Antipolis, France, Jan. 26-28, 2000.
- (188) J.A. Benediktsson and H. Benediktsson, "Neuro-Fuzzy and Soft Computing in Classification of Remote Sensing Data," Proceedings of EUROPTO 99, pp. 176-187, Florence, Sept. 20-24, 1999.
- (189) J.R. Sveinsson and J.A. Benediktsson, "Speck Reduction and Enhancement of SAR Images Using Multiwavelets and Adaptive Thresholding," Proceedings of EUROPTO 99, pp. 239-250, Florence, Sept. 20-24, 1999.
- (190) J.A. Benediktsson and K. Árnason, "Fusion of Multitype Data," Proceedings of Workshop on Intelligent Techniques for Spatio-Temporal Data Analysis in Environmental Applications, pp. 7-15, Chania, Greece, 5-16 July 1999.
- (191) J.A. Benediktsson and K. Árnason, "Decision Level Fusion of Multitype Data," Proceedings of the 1999 International Geoscience and Remote Sensing Symposium (IGARSS '99), pp. 74-77, Hamburg, Germany, June 28 – July 2, 1999.
- (192) J.A. Benediktsson and K. Benediktsson, "Hybrid Consensus Theoretic Classification with Pruning and Regularization," Proceedings of the 1999 International Geoscience and Remote Sensing Symposium (IGARSS '99), pp. 2486-2488, Hamburg, Germany, June 28 – July 2, 1999.
- (193) J.R. Sveinsson, A.M. Hrafnkelsson, and J.A. Benediktsson, "Multiple Wavelet Transforms for Speckle Reduction of SAR Images," Proceedings of the 1999

- International Geoscience and Remote Sensing Symposium (IGARSS '99), pp. 1321-1323, Hamburg, Germany, June 28 – July 2, 1999.
- (194) J.A. Benediktsson, J. Larsen, J.R. Sveinsson, and L.K. Hansen, "Optimized Combination, Regularization, and Pruning in Parallel Consensual Neural Networks," Proceedings of EUROPTO 98, pp. 301-311, Barcelona, Sept. 21-24, 1998.
- (195) J.A. Benediktsson and K. Arnason, "Data Fusion for Environmental Monitoring," presented at IGU Regional Conference, Lisbon, Portugal, Aug. 28-29, 1998.
- (196) J.A. Benediktsson, J.R. Sveinsson, and K. Arnason, "Classification and Integration of Multitype Data," Proceedings of the International Geoscience and Remote Sensing Symposium (IGARSS '98), vol. I, pp. 177-179, Seattle, WA, July 5-10, 1998.
- (197) J.A. Benediktsson, J. Sigurdsson, and J.R. Sveinsson, "Feature Extraction based on LOOC Estimation," Proceedings of the International Geoscience and Remote Sensing Symposium (IGARSS '98), vol. IV, pp. 2053-2055, Seattle, WA, July 5-10, 1998.
- (198) K. Benediktsson, H. Benediktsson, J.A. Benediktsson, and J.R. Sveinsson, "An Extension of Parametric Decision Boundary Feature Extraction (DBFE) for Classification of Hyperdimensional Data," Proceedings of the International Geoscience and Remote Sensing Symposium (IGARSS '98), vol. V, pp. 2694-2696, Seattle, WA, July 5-10, 1998.
- (199) J.R. Sveinsson, O. Hilmarsson, and J.A. Benediktsson, "Translation Invariant Wavelets for Speckle Reduction of SAR Images," Proceedings of the International Geoscience and Remote Sensing Symposium (IGARSS '98), vol. II, pp. 1121-1123, Seattle, WA, July 5-10, 1998.
- (200) G. Saevarsson, J.R. Sveinsson, and J.A. Benediktsson, "Wavelet-Package Transformation as a Preprocessor of EEG Waveforms for Classification," Engineering in Medicine and Biology Society, 1997. Proceedings of the 19th Annual International Conference of the IEEE, Vol. 3, pp. 1305-1308, Oct. 30 – Nov. 2, 1997.
- (201) T. Thormundsson, J.R. Sveinsson, and J.A. Benediktsson, "Nonlinear Intersymbol Interference in Voiceband Communication Channels," Conference Proceedings, 1997 IEEE Pacific Rim Conference on Communications, Computers, and Signal Processing (PACRIM'97), pp. 862-865, University of Victoria, Canada, August 20-22, 1997
- (202) J.A. Benediktsson and J.R. Sveinsson, "Classification of Hyperdimensional Data Using Data Fusion Approaches, Proceedings of the International Geoscience and Remote Sensing Symposium (IGARSS '97), pp. 1669-1671, Singapore, August 3-8, 1997.
- (203) J.A. Benediktsson, J.I. Ingimundarson, and J.R. Sveinsson, "Classification and Feature Extraction of Hyperdimensional Data Using LOOC Covariance Estimation," Proceedings of the International Geoscience and Remote Sensing Symposium (IGARSS '97), pp. 913-915, Singapore, August 3-8, 1997.
- (204) J.R. Sveinsson and J.A. Benediktsson, "Tree Structured Filter Banks for Speckle Reduction of SAR Images," Proceedings of the International

- Geoscience and Remote Sensing Symposium (IGARSS '97), pp. 501-504, Singapore, August 3-8, 1997.
- (205) J.R. Sveinsson, J.A. Benediktsson, and O. Hilmarsson, "Feature Extraction for Neural Network Classifiers," Proceedings of the International Geoscience and Remote Sensing Symposium (IGARSS '97), 1026-1028, Singapore, August 3-8, 1997.
- (206) J.A. Benediktsson and J.R. Sveinsson, "Optimized Classification of Multisource Data," Proceedings of the 1996 IEEE Nordic Signal Processing Symposium (NORSIG '96), pp. 75-78, Helsinki, Finland, September 24-27 1996.
- (207) J.A. Benediktsson, J.R. Sveinsson and P.H. Swain, "Hybrid Consensus Theoretic Classification," Proceedings of the International Geoscience and Remote Sensing Symposium '96 (IGARSS '96), vol. 3, pp. 1848-1850, Lincoln, Nebraska, May 27-31 1996.
- (208) J.A. Benediktsson, K. Árnason, Á. Hjartarson and D.A. Landgrebe, "Classification and Feature Extraction with Enhanced Statistics," Proceedings of the International Geoscience and Remote Sensing Symposium '96 (IGARSS '96), vol. 1, pp. 414-416, Lincoln, Nebraska, May 27-31 1996.
- (209) J.R. Sveinsson and J.A. Benediktsson, "Speckle Reduction and Enhancement of SAR Images in the Wavelet Domain," Proceedings of the International Geoscience and Remote Sensing Symposium '96 (IGARSS '96), vol. 1, pp. 63-66, Lincoln, Nebraska, May 27-31 1996.
- (210) J.A. Benediktsson, J.R. Sveinsson and O.K. Ersoy, "Optimized Combination of Neural Networks," Proceedings of the 1996 IEEE International Symposium on Circuits and Systems, (ISCAS 96), vol 3, pp. 535-538, Atlanta, May 12 - 15, 1996.
- (211) J.A. Benediktsson, J.R. Sveinsson and P.H. Swain, "Optimized Consensus Theory." Proceedings of the 1996 IEEE International Conference on Acoustics, Speech and Signal Processing, (ICASSP 96), vol. 6, pp. 3490 - 3493, Atlanta, May 7 - 10, 1996.
- (212) J.A. Benediktsson, J.R. Sveinsson, O.K. Ersoy and P.H. Swain, "Wavelet Packet Parallel Consensual Neural Networks," Proceedings of Artificial Neural Networks in Engineering (ANNIE '95), pp. 5-13, St. Louis, MO, November 1995. **Award winning paper - Best Novel Engineering.**
- (213) J.A. Benediktsson, J.R. Sveinsson, O.K. Ersoy, "Parallel Consensual Neural Networks with Wavelet Packets," Proceedings of the International Conference on Artificial Neural Networks (ICANN '95) - Scientific Conference, vol. 1, pp. 555-560, Paris, France, October 1995.
- (214) J.R. Sveinsson, J.A. Benediktsson and S.B. Stefansson, "Classification of Event-Related Waveforms with Parallel Principal Component Neural Networks," Proceedings of the 17th Annual Conference of IEEE Engineering in Medicine and Biology and 21st Canadian Medical and Biological Engineering, Montreal, Canada, September 20-23, pp. 799-800, 1995.
- (215) J.R. Sveinsson, S.B. Stefansson, K. Davidsson and J.A. Benediktsson, "Auditory Event-Related Potentials in Normal and Schizophrenic Subjects: Analysis Using Wavelet Packet Transformation," Proceedings of the 29th

- Annual Scientific Meeting of European Society for Clinical Investigation, Cambridge, U.K., April 2-5, 1995. Abstract also appeared in the European Journal of Clinical Investigation, Vol. 25, Supplement 2, pp. A 20, 1995.
- (216) J.A. Benediktsson, J.R. Sveinsson and K. Arnason, "Classification of Very-High-Dimensional Data with Geological Applications," MAC Europe Final Results Workshop Proceedings, Lenggries, Germany, October 4-6 1994, ESA WPP-88, pp. 13-18, January 1995.
- (217) J.A. Benediktsson, K. Árnason and J.R. Sveinsson, "Classification of AVIRIS Data from Iceland - Geological Applications," Proceedings of the International Geoscience and Remote Sensing Symposium '94 (IGARSS '94), Vol. 4, pp. 2351-2353, Pasadena, CA, August 1994.
- (218) J.A. Benediktsson, J.R. Sveinsson, P.H. Swain and O.K. Ersoy, "Parallel Consensual Neural Networks with Optimally Weighted Output," Proceedings of the 1994 World Congress of Neural Networks, pp. III-129 - III-137, San Diego, CA, June 1994.
- (219) J.A. Benediktsson, K. Árnason, J.R. Sveinsson and Á. Eiríksson, "Classification of AVIRIS Data From Iceland Using New Approaches," Proceedings of the 25th International Symposium, Remote Sensing and Global Environmental Change, Graz, Austria, Vol. 1, pp. 363-373, April 4-8, 1993.
- (220) J.A. Benediktsson, J.R. Sveinsson, P.H. Swain and O.K. Ersoy, "Parallel Consensual Neural Networks," Proceedings of the 1993 IEEE International Conference on Neural Networks, Vol. 1, pp. 27-32, San Francisco, CA, March 28 - April 1, 1993.
- (221) S.B. Stefánsson, J.R. Sveinsson, J.A. Benediktsson and S. Björnsson, "Auditory Event-Related Potentials in Normal and Schizophrenic Subjects: Analysis Using Artificial Neural Networks and Signal Processing," Proceedings of the 27th Annual Scientific Meeting of European Society for Clinical Investigation, Heidelberg, Germany, April 14-17, 1993. Abstract also appeared in the European Journal of Clinical Investigation, Vol. 23, Supplement 1, pp. A 25, 1993.
- (222) C. Lee, J.A. Benediktsson and D.A. Landgrebe, "Feature Selection for Neural Networks Using Parzen Density Estimator," Proceedings of the International Geoscience and Remote Sensing Symposium 1992 (IGARSS '92), Vol. 2, pp. 839-841, Austin, Texas, May 1992.
- (223) J.A. Benediktsson, O.K. Ersoy and P.H. Swain, "A Consensual Neural Network", Proceedings of the International Geoscience and Remote Sensing Symposium 1991 (IGARSS '91), vol. 4, pp. 2219-2222, Espoo, Finland, June 1991.
- (224) J.A. Benediktsson, P.H. Swain, O.K. Ersoy and D. Hong, "Classification of Very-High-Dimensional Data Using Neural Networks," Proceedings of the International Geoscience and Remote Sensing Symposium 1990 (IGARSS '90), Vol. 2, pp. 1269-1272, Washington, D.C., May 1990.
- (225) J.A. Benediktsson, P.H. Swain and O.K. Ersoy, "Neural Network Approaches Versus Statistical Methods in Classification of Multisource Remote Sensing Data," Proceedings of the International Geoscience and Remote Sensing

- Symposium 1989 (IGARSS '89) and the 12th Canadian Symposium on Remote Sensing, Vol. 2, pp. 489-492, Vancouver, Canada, July 1989.
- (226) J.A. Benediktsson and P.H. Swain, "A Method of Statistical Multisource Classification with a Mechanism to Weight the Influence of the Data Source," Proceedings of the International Geoscience and Remote Sensing Symposium (IGARSS '89) and the 12th Canadian Symposium on Remote Sensing, Vol. 2, pp. 517-520, Vancouver, Canada, July 1989.
- (227) H. Kim, P.H. Swain and J.A. Benediktsson, "A Method for Combining Multispectral and Ancillary Data in Remote Sensing and Geographic Information Processing," Proceedings of the 1986 International Conference on Systems, Man and Cybernetics, pp. 1543-1547, Atlanta, GA October 1986.

Ágrip:

- (1) S. Bjornsson and J.A. Benediktsson, "On Fast Feature Extraction (FFE)", *Proceedings of the 1985 Machine Processing of Remotely Sensed Data Symposium*, pp. 341, Purdue University, W. Lafayette, IN, June 1985.
- (2) Jon Atli Benediktsson and Kolbeinn Arnason, "Data Fusion for Environmental Monitoring," presented at IGU Regional Conference, Lisbon, Portugal, Aug. 28-29, 1998.
- (3) J.R. Sveinsson and J.A. Benediktsson, "Fusion and Classification of Multisource Remote Sensing Data Based on Tree Structured Filter Banks," *Proceedings of PIERS 2000*, pp. 200, Cambridge, MA, July 5-14, 2000.
- (4) Jón Atli Benediktsson, Flokkun fjarkönnunargagna með mikilli upplausn, hádegisráðstefna LÍSU samtakana og Landmælinga Íslands, 19. okt. 2001.
- (5) J.A. Benediktsson, K. Arnason and M. Pesares, "Morphological Profiles for Classification of Data from Urban Areas," *Proceedings of the International Geoscience and Remote Sensing (IGARSS 2002)*, p. 307, Toronto, Canada, June 2002.
- (6) J.A. Benediktsson, O. Pellet, E. Stefansson and T. Eysteinnsson, "Computer-Assisted Analysis of Fundus Images in Oxymetry," *Abstract Book, First International University Program on the Role of Ischemia in Eye Disease*, p. 25, Hotel Loftleidir, Reykjavik, September 21-22, 2002.
- (7) J.A. Benediktsson, G.H. Halldorsson, E. Stefansson and T. Eysteinnsson, "Sjalfvirk skraning augnbotnamynda til að meta surefnismettun," (abstract in Icelandic) *The Icelandic Medical Journal*, Supplement 47, p. 56, 2002.
- (8) G.M. Zoega, Th. Eysteinnsson, P.K. Jensens, D.B. Pedersen, K. Bang, J. Beach, J.A. Benediktsson, G.H. Halldorsson, and E. Stefansson, "Litrofsgreining a blodrauda I aedum sjonhimnu og sjontaugar i monnum," (abstract in Icelandic) *The Icelandic Medical Journal*, Supplement 47, p. 55-56, 2002.
- (9) Gunnar Már Zoega, Gísli H. Halldórsson, Jón Atli Benediktsson, Þór Eysteinnsson and Einar Stefánsson, "Retinal oximetry: Reproducibility and sensitivity," Abstract, EVER 2003, Alicante, Spain, Oct. 8-11, 2003, *Journal for Research in Experimental and Clinical Ophthalmology*, vol. 35. S1, p. 51, 2003.

- (10) Gísli H. Halldórsson, Gunnar Már Zoega, Jón Atli Benediktsson, Einar Stefánsson and Þór Eysteinnsson, "Computer-assisted analyses of fundus images in oxymetry," Abstract, EVER 2003, Alicante, Spain, Oct. 8-11, 2003, *Journal for Research in Experimental and Clinical Ophthalmology*, vol. 35. S1, p. 54, 2003.
- (11) R.A. Karlsson, S.H. Hardarson, E.Stefánsson, G.H. Halldorsson, S.Basit, T.Eysteinnsson, J.A. Benediktsson, A.Harris and J.M. Beach, "Counter-Current Oxygen Flux From Arterioles to Venules in the Human Retinal Circulation," Association for Research in Vision and Ophthalmology, Inc. 2007 (ARVO 2007), Ft. Lauderdale, Florida, USA, May 6-May 10, 2007.
- (12) S.H. Hardarson, R.A. Karlsson, G.H. Halldorsson, S.Basit, T.Eysteinnsson, J.A. Benediktsson, J.M. Beach, A.Harris, and E. Stefánsson, "Increased Oxygen Saturation After Laser Treatment in Human BRVO," Association for Research in Vision and Ophthalmology, Inc. 2007 (ARVO 2007), Ft. Lauderdale, Florida, USA, May 6-May 10, 2007.
- (13) J.M. Beach, G.H. Halldorsson, R.A. Karlsson, S.H. Hardarson, T.Eysteinnsson, J.A. Benediktsson, and E.Stefánsson, "Wide Field High Resolution Retinal Imaging Oximeter," Association for Research in Vision and Ophthalmology, Inc. 2007 (ARVO 2007), Ft. Lauderdale, Florida, USA, May 6-May 10, 2007.
- (14) S. Basit, S.H. Hardarson, G.H. Halldorsson, R.A. Karlsson, J.M. Beach, T.Eysteinnsson, J.A. Benediktsson, A. Harris and E. Stefánsson, "Oxygen Saturation in Human Retinal Arterioles and Venules Is Lower in Light Than in Dark," Association for Research in Vision and Ophthalmology, Inc. 2007 (ARVO 2007), Ft. Lauderdale, Florida, USA, May 6-May 10, 2007.
- (15) Róbert Arnar Karlsson, Sveinn Hákon Harðarson, Einar Stefánsson, Gísli Hreinn Halldórsson, Samy Basit, Þór Eysteinnsson, Jón Atli Benediktsson og James M. Beach, „Gegnstreymi súrefnis frá slagæðlingum til bláæðlinga í sjónhimnu manna” Vísindi á Landspítala-Háskólasjúkrahúsi, 27. apríl 2007.
- (16) Samy Basit, Sveinn Hákon Harðarson, Gísli Hreinn Halldórsson, Róbert Arnar Karlsson, James M. Beach, Þór Eysteinnsson, Jón Atli Benediktsson og Einar Stefánsson, „Súrefnismettun í slag- og bláæðlingum sjónhimnu er minni í ljósi en í myrkri.” Vísindi á Landspítala-Háskólasjúkrahúsi, 27. apríl 2007.
- (17) Sveinn Hákon Harðarson, Róbert Arnar Karlsson, Gísli Hreinn Halldórsson, Samy Basit, Þór Eysteinnsson, Jón Atli Benediktsson, James M. Beach og Einar Stefánsson, „Súrefnismettun vex eftir leysimeðferð við bláæðastíflu í sjónhimnu.” Vísindi á Landspítala-Háskólasjúkrahúsi, 27. apríl 2007.
- (18) Jónína Lilja Pálsdóttir, Þórður Helgason, Jón Atli Benediktsson, Páll Ingvarsson, Sigrún Knútsdóttir, Vilborg Guðmundsdóttir og Stefán Yngvason „Hönnun og prófun aðferðar til að vakta meðferð aftaugaðra rýra vöðva.” Ráðstefna um rannsóknir í líf- og heilbrigðisvísindum í Háskóla Íslands, Öskju 4. og 5. janúar 2007.
- (19) Róbert Arnar Karlsson, Jón Atli Benediktsson, Sveinn Hákon Harðarson, Gísli Hreinn Halldórsson, Þór Eysteinnsson og Einar Stefánsson, „Hugbúnaðarviðmót til mælinga á súrefnismettun í æðlingum sjónhimnu.” Ráðstefna um rannsóknir í líf- og heilbrigðisvísindum í Háskóla Íslands, Öskju 4. og 5. janúar 2007.

- (20) Sveinn Ríkarður Jólsson, Róbert Arnar Karlsson, Gísli Hreinn Halldórsson, Sveinn Hákon Harðarson, Aðalbjörn Þorsteinsson, Þór Eysteinnsson, James M. Beach, Einar Stefánsson og Jón Atli Benediktsson, „Sjálfvirkt mat á gæðum augnbotnamynda.” Ráðstefna um rannsóknir í líf- og heilbrigðisvísindum í Háskóla Íslands, Öskju 4. og 5. janúar 2007.
- (21) S. Traustason, S.H. Hardarson, G.H. Halldorsson, R.A. Karlsson, J.M. Beach, J.A. Benediktsson, T. Eysteinnsson and E. Stefánsson, “Hypoxia in Human Central Retinal Vein Occlusion,” Association for Research in Vision and Ophthalmology, Inc. 2008 (ARVO 2008), Ft. Lauderdale, Florida, USA, April 27-May 1, 2008.
- (22) G. Troglio, G.H. Halldorsson, R.A. Karlsson, G. Moser, S.B. Serpico, J.M. Beach, E. Stefánsson and J.A. Benediktsson, “Automatic Registration of Retinal Images Using Genetic Algorithms,” Association for Research in Vision and Ophthalmology, Inc. 2008 (ARVO 2008), Ft. Lauderdale, Florida, USA, April 27-May 1, 2008.
- (23) S.H. Hardarson, R.A. Karlsson, T. Eysteinnsson, J.M. Beach, J.A. Benediktsson, and E. Stefánsson, “Retinal Oxygenation After Laser Photocoagulation in Patients With Proliferative Diabetic Retinopathy,” Association for Research in Vision and Ophthalmology, Inc. 2008 (ARVO 2008), Ft. Lauderdale, Florida, USA, April 27-May 1, 2008.
- (24) R.A. Karlsson, S.H. Hardarson, J.M. Beach, T. Eysteinnsson, J.A. Benediktsson, and E. Stefánsson, “Retinal Oxygenation in Patients With Central Retinal Artery Occlusion,” Association for Research in Vision and Ophthalmology, Inc. 2009 (ARVO 2009), Ft. Lauderdale, Florida, USA, May 3 - 7, 2009.
- (25) S.H. Hardarson, O.B. Olafsdottir, R.A. Karlsson, J.M. Beach, T. Eysteinnsson, J.A. Benediktsson and E. Stefánsson, “Retinal Vessel Oxygen Saturation in Patients With Diabetic Retinopathy,” Association for Research in Vision and Ophthalmology, Inc. 2009 (ARVO 2009), Ft. Lauderdale, Florida, USA, May 3 - 7, 2009.
- (26) S.H. Hardarson, O.B. Olafsdottir, R.A. Karlsson, J.M. Beach, T. Eysteinnsson, J.A. Benediktsson and E. Stefánsson, “Retinal Oxygenation in Diabetic Retinopathy,” European Association for Vision and Eye Research (EVER 2009), Portoroz, Slovenia, Sept. 30 – Oct. 3, 2009.

Technical Reports:

- (1) H.K. Hognason, J.R. Sveinsson, and J.A. Benediktsson, *Channel Capacity and Spectral Compatibility for Metallic Twisted-Pair Systems*, Technical Report # T990815, Laboratory of Information and Signal Processing, Engineering Research Institute, University of Iceland, August 1999.
- (2) Kolbeinn Árnason, Jón Atli Benediktsson og Jón Guðnason, *Flokkun fjarönnunargagna með mikilli upplausn*, Tækniskýrsla F99101, Upplýsinga- og merkjafræðistofa Háskólans, Háskóli Íslands, október 1999.
- (3) Kjartan Benediktsson, Johannes R. Sveinsson, and Jon Atli Benediktsson, *Audio Signal Compression Using GenLOT and Adaptive Vector Quantization*, Technical Report # 980218 Engineering Research Institute, University of Iceland, Feb. 1998.

- (4) Omar Hilmarsson, Johannes R. Sveinsson, and Jon Atli Benediktsson, *Linear and Nonlinear Prediction Filters for Speech*, Technical Report # 980828, Engineering Research Institute, University of Iceland, Aug. 1998.
- (5) J. Sigurðsson and J.A. Benediktsson, Greining lífeðlisfræðilegra gagna, (in Icelandic), Technical Report# 971001 Engineering Research Institute, University of Iceland, October 1997.
- (6) J.R. Sveinsson, J.A. Benediktsson and T. Thormundsson, *Compression of Speech Data with Neural Networks and the Compensation of Nonlinear Intersymbol Interference*, Technical Report # T961001, Engineering Research Institute, University of Iceland, October 1996.
- (7) J.A. Benediktsson, J.R. Sveinsson and P.H. Swain, *Hybrid Consensus Theoretic Classification*, Technical Report # T960929, Engineering Research Institute, University of Iceland, September 1996.
- (8) J.A. Benediktsson and J.R. Sveinsson, *Multisource Data Classification and Feature Extraction with Neural Networks*, Technical Report # TF952812, Lab. for Signal Processing, Engineering Research Institute, University of Iceland, December 1995.
- (9) S. Guðmundsson, J.R. Sveinsson and J.A. Benediktsson, *Flokkun heilarita með mynsturgreiningaraðferðum*, (in Icelandic) Technical Report # TF952810, Lab. for Signal Processing, Engineering Research Institute, University of Iceland, October 1995.
- (10) K. Davíðsson, J.R. Sveinsson, J.A. Benediktsson and S. Olafsson, *Gagnaþjöppun tals með tauganetum*, (in Icelandic) Technical Report # TF950109, Lab. for Signal Processing, Engineering Research Institute, University of Iceland, September 1995.
- (11) J.R. Sveinsson and J.A. Benediktsson, *Recognition of Spike and a Slow Wave Waveforms in EEGs*, Technical Report # T950411, Lab. for Signal Processing, Engineering Research Institute, University of Iceland, April 1995.
- (12) J.A. Benediktsson, J.R. Sveinsson, O.K. Ersoy and P.H. Swain, *Parallel Consensus Neural Networks*, Technical Report # T950620, Lab. for Signal Processing, Engineering Research Institute, University of Iceland, June 1995.
- (13) J.R. Sveinsson, J.A. Benediktsson and G. Magnusson, *Neural Networks in Identification and Control of Nonlinear Systems I: Identification*, Technical Report # T950105, Lab. for Signal Processing, Engineering Research Institute, University of Iceland, January 1995.
- (14) J.R. Sveinsson, J.A. Benediktsson and K. Davidsson, *Neural Networks in Identification and Control of Nonlinear Systems II: Output Tracking*, Technical Report # T950106, Lab. for Signal Processing, Engineering Research Institute, University of Iceland, January 1995.
- (15) J.A. Benediktsson, K. Árnason and J.R. Sveinsson, *Classification of Very-High-Dimensional Data with Geological Applications*, Technical Report, Engineering Reserach Institute, University of Iceland, T941020, October 1994.
- (16) K. Árnason, Á. Eiríksson, J.A. Benediktsson and Kristinn Gudmundsson, *Mælingar á lit sjávar með fjarkönnun úr flugvél. Niðurstöður tilraunamælinga í október 1993* (in Icelandic), Technical Report F94101, Aug. 1994.
- (17) K. Árnason, Á. Eiríksson, J.A. Benediktsson and V. Þorvaldsson, *Þróun mæliaðferða fyrir reglubundnar fjarkönnunarrannsóknir á Íslandi* (in Icelandic), Progress report to the Icelandic Research Council, Grant no. 93027, 1994.

- (18) J.R. Sveinsson and J.A. Benediktsson, *Parallel Principal Neural Networks*, Technical Report, Lab. for Information Technology and Signal Processing, The Engineering Research Institute, University of Iceland, Report no. TF93031, Feb. 1993.
- (19) J.A. Benediktsson, J.R. Sveinsson, P.H. Swain and O.K. Ersoy, *Parallel Consensual Neural Networks with Optimal Weighted Outputs*, Technical Report, Lab. for Information Technology and Signal Processing, The Engineering Research Institute, University of Iceland, Report no. TF930825, October 1993.
- (20) J.A. Benediktsson, O.K. Ersoy and P.H. Swain, *Consensual Neural Networks*, Technical Report, TR-EE 91-37, Laboratory for Applications of Remote Sensing and School of Electrical Engineering, Purdue University, September 1991, 30 pp.
- (21) J.A. Benediktsson and P.H. Swain, *Statistical Methods and Neural Network Approaches for Classification of Data from Multiple Sources*. Technical Report, TR-EE 90-26, Laboratory for Applications of Remote Sensing and School of Electrical Engineering, Purdue University, December 1990.
- (22) J.A. Benediktsson and P.H. Swain, *Methods for Statistical Multisource Analysis in Remote Sensing*, Technical Report, TR-EE 87-26, Laboratory for Applications of Remote Sensing and School of Electrical Engineering, Purdue University, May 1987.