

# PUBLICATIONS

## J. ZERUBIA

### Thesis and HdR

- [1] J. Zerubia. Contribution à la modélisation et à l'analyse statistique de signaux. Habilitation à Diriger des Recherches, Université de Nice-Sophia Antipolis, September 1994.
- [2] J. Zerubia. La représentation et le traitement de signaux bruités. Thèse de Doctorat, Université de Nice-Sophia Antipolis, July 1988.
- [3] J. Zerubia. Modélisation d'un signal à partir d'observations bruitées, application à la réduction du bruit pour des signaux de parole. Thèse de Docteur-Ingénieur, Université de Nice-Sophia Antipolis, October 1986.

### Books and monographs

- [1] A. Rangarajan, M. Figueiredo, and J. Zerubia. *Energy Minimization Methods in Computer Vision and Pattern Recognition*. Number 2683 in Lecture Notes in Computer Science. Springer Verlag, July 2003.
- [2] M. Figueiredo, J. Zerubia, and A.K. Jain (Eds). *Energy minimization methods in computer vision and pattern recognition*. Number 2134 in Lecture Notes in Computer Science. Springer Verlag, 2001.

### Book chapters

- [1] X. Descombes, I.H. Jermyn, and J. Zerubia. *Inverse Problems in Vision and 3D Tomography*, chapter Detection and Recognition of a Collection of Objects in a Scene. ISTE, London ; John Wiley and sons, 2009.
- [2] X. Descombes, I.H. Jermyn, and J. Zerubia. *Problemes inverses en imagerie et en vision*, chapter Détection d'objets dans une scène, pages 167–204. Tr. IC2. Ed. Hermes, 2009.
- [3] A. Jalobeanu, J. Zerubia, and L. Blanc-Féraud. *Blind image deconvolution : theory and applications*, chapter Bayesian estimation of blur and noise in remote sensing imaging. CRC Press, 2007.
- [4] M. Ortner, X. Descombes, and J. Zerubia. *Monte Carlo Methods and Quasi-Monte Carlo Methods*, chapter A Reversible Jump MCMC Sampler for Object Detection in Image Processing. Springer Verlag, 2005.
- [5] J. Zerubia, A. Jalobeanu, and Z. Kato. *Journal de Physique*, volume IV, chapter Markov random fields in image processing, application to remote sensing and astrophysics. 2002.
- [6] R. Stoica, X. Descombes, M.N.M. Van Lieshout, and J. Zerubia. *Spatial statistics through applications*, chapter An application of marked point process to the extraction of linear networks for images. WITPress, 2002.
- [7] C. Graffigne and J. Zerubia. *Analyse d'images : filtrage et segmentation*, chapter Segmentation région : approches statistiques. Masson, 1995.
- [8] J. Zerubia and C. Graffigne. *Analyse d'images : filtrage et segmentation*, chapter Segmentation contour : approches statistiques. Masson, 1995.
- [9] J. Zerubia and C. Graffigne. *Analyse d'images : filtrage et segmentation*, chapter Quelques précisions sur l'application des champs markoviens à la segmentation. Masson, 1995.

### International journal publications

- [1] T. Peng, I.H. Jermyn, V. Prinet, and J. Zerubia. Extended phase field higher-order active contour models for networks. *International Journal of Computer Vision*, October 2009.

- [2] F. Lafarge, X. Descombes, J. Zerubia, and M. Pierrot-Deseilligny. Structural approach for building reconstruction from a single DSM. *IEEE Trans. Pattern Analysis and Machine Intelligence*, 32(135-147) :2303–2315, January 2009.
- [3] C. Lacoste, X. Descombes, and J. Zerubia. Unsupervised line network extraction in remote sensing using a polyline process. *Pattern Recognition*, to appear 2009.
- [4] C. Benedek, T. Sziranyi, Z. Kato, and J. Zerubia. Detection of object motion regions in aerial image pairs with a multi-layer Markovian model. *IEEE Trans. Image Processing*, 18(10) :2303–2315, October 2009.
- [5] G. Scarpa, R. Gaetano, M. Haindl, and J. Zerubia. Hierarchical multiple Markov chain model for unsupervised texture segmentation. *IEEE Trans. Image Processing*, 18(8) :1830–1843, August 2009.
- [6] P. Pankajakshan, B. Zhang, L. Blanc-Feraud, Z. Kam, J.C. Olivo-Marin, and Zerubia J. On blind deconvolution for thin layered confocal imaging. *Applied Optics*, 48(21) :4437–4448, August 2009.
- [7] P. Horvath, I.H. Jermyn, Z. Kato, and J. Zerubia. A higher-order active contour model of a "gas of circles" and its application to tree crown extraction. *Pattern Recognition*, 42(5) :699–709, May 2009.
- [8] T. Peng, I.H. Jermyn, V. Prinet, and J. Zerubia. Incorporating generic and specific prior knowledge in a multi-scale phase field model for road extraction from VHR images. *IEEE Trans. Geoscience and Remote Sensing*, 1(2) :139–146, June 2008.
- [9] F. Lafarge, X. Descombes, J. Zerubia, and M. Pierrot-Deseilligny. Automatic building extraction from DEMs using an object approach and application to the 3d-city modeling. *Journal of Photogrammetry and Remote Sensing*, 63(3) :365–381, May 2008.
- [10] M. Ortner, X. Descombes, and J. Zerubia. A marked point process of rectangles and segments for automatic analysis of digital elevation models. *IEEE Trans. Pattern Analysis and Machine Intelligence*, 30(1) :105–119, January 2008.
- [11] M. Rochery, I.H. Jermyn, and J. Zerubia. Higher-order active contour energies for gap closure. *Journal of Mathematical Imaging and Vision*, 29(1) :1–20, September 2007.
- [12] B. Zhang, J. Zerubia, and J.C. Olivo-Marin. Gaussian approximations of fluorescence microscope point-spread function models. *Applied Optics*, 46(10) :1819–1829, April 2007.
- [13] M. Ortner, X. Descombes, and J. Zerubia. Building outline extraction from digital elevation models using marked point processes. *International Journal of Computer Vision*, 72(2) :107–132, April 2007.
- [14] A. Bhattacharya, M. Roux, H. Maitre, I.H. Jermyn, X. Descombes, and J. Zerubia. Computing statistics from man-made structures on the earth's surface for indexing satellite images. *International Journal of Simulation Modelling*, 6(2) :73–83, 2007.
- [15] A. Achim, E.E. Kuruoglu, and J. Zerubia. SAR image filtering based on the heavy-tailed Rayleigh model. *IEEE Trans. on Image Processing*, 15(9) :2686–2693, September 2006.
- [16] M. Rochery, I.H. Jermyn, and J. Zerubia. Higher order active contours. *International Journal of Computer Vision*, 69(1) :27–42, August 2006.
- [17] G. Moser, J. Zerubia, and S.B. Serpico. SAR amplitude probability density function estimation based on a generalized Gaussian model. *IEEE Trans. on Image Processing*, 15(6) :1429–1442, June 2006.
- [18] G. Moser, J. Zerubia, and S.B. Serpico. Dictionary-based stochastic expectation-maximization for SAR amplitude probability density function estimation. *IEEE Trans. Geoscience and Remote Sensing*, 41(1) :188–200, January 2006.
- [19] N. Dey, L. Blanc-Féraud, C. Zimmer, Z. Kam, P. Roux, J.C. Olivo-Marin, and J. Zerubia. Richardson-Lucy algorithm with total variation regularization for 3d confocal microscope deconvolution. *Microscopy Research Technique*, 69 :260–266, 2006.
- [20] C. Lacoste, X. Descombes, and J. Zerubia. Point processes for unsupervised line network extraction in remote sensing. *IEEE Trans. Pattern Analysis and Machine Intelligence*, 27(10) :1568–1579, October 2005.
- [21] G. Poggi, G. Scarpa, and J. Zerubia. Supervised segmentation of remote sensing images based on a tree-structure MRF model. *IEEE Trans. Geoscience and Remote Sensing*, 43(8) :1901–1911, August 2005.

- [22] E.E. Kuruoglu and J. Zerubia. Modelling SAR images with a generalization of the Rayleigh distribution. *IEEE Trans. Image Processing*, 13(4) :527 – 533, April 2004.
- [23] R. Stoica, X. Descombes, and J. Zerubia. A Gibbs point process for road extraction inremotely sensed images. *International Journal of Computer Vision*, 57(2) :121–136, 2004.
- [24] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. An adaptive Gaussian model for satellite image deblurring. *IEEE Trans. Image Processing*, 13(4), 2004.
- [25] G. Rellier, X. Descombes, X. Falzon, and J. Zerubia. Texture feature analysis using a Gauss-Markov model in hyperspectral image classification. *IEEE Trans. Geoscience and Remote Sensing*, 42(7) :1543–1551, 2004.
- [26] A. Ben Hamza, H. Krim, and J. Zerubia. A nonlinear entropic variational model for image filtering. *EURASIP Journal on Applied Signal Processing*, 16 :2408–2422, 2004.
- [27] E. Kuruoglu and J. Zerubia. Modelling SAR images with a generalisation of the Rayleigh distribution. *IEEE Trans. on Image Processing*, 2003.
- [28] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. Satellite image deblurring using complex wavelet packets. *International Journal of Computer Vision*, 2003.
- [29] E. Kuruoglu and J. Zerubia. Skewed alpha-stable distributions for modelling textures. *Pattern Recognition Letters*, 24(1-3) :339–348, January 2003.
- [30] X. Descombes and J. Zerubia. Marked point processes in image analysis. *special issue of IEEE Signal Processing Magazine*, 19(5) :77–84, September 2002.
- [31] G. Rellier, X. Descombes, and J. Zerubia. Local registration and deformation of a road cartographic database on a SPOT satellite image. *Pattern Recognition*, 35(10) :2213–2221, 2002.
- [32] H. Foroosh, J. Zerubia, and M. Berthod. Extension of phase correlation to subpixel registration. *IEEE Trans. on Image Processing*, 11(3) :188–200, March 2002.
- [33] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. Hyperparameter estimation for satellite image restoration using a MCMC maximum likelihood method. *Pattern Recognition*, 35(2) :341–352, 2002.
- [34] X. Descombes, R. Stoica, L. Garcin, and J. Zerubia. A RJMCMC algorithm for object processes in image processing. *Monte Carlo Methods and applications*, 7(1-2) :149–156, 2001.
- [35] C. Samson, L. Blanc-Féraud, G. Aubert, and J. Zerubia. A level set model for image classification. *International Journal on Computer Vision*, 40(3) :187–197, December 2000.
- [36] T. Sziranyi, J. Zerubia, L. Czuni, D. Geldreich, and Z. Kato. Image segmentation using Markov random field model in fully parallel cellular network architectures. *RealTime Imaging*, 6(3) :195–211, June 2000.
- [37] A. Lorette, X. Descombes, and J. Zerubia. Texture analysis through a Markovian modelling and fuzzy classification : application to urban area extraction from satellites images. *International Journal of Computer Vision*, 36(3) :221–236, 2000.
- [38] A. Lorette, X. Descombes, and J. Zerubia. Urban areas extraction based on texture analysis through a Markovian modelling. *International Journal on Computer Vision*, 36(3) :221–236, June 2000.
- [39] C. Samson, L. Blanc-Féraud, G. Aubert, and J. Zerubia. A variational model for image classification and restoration. *IEEE Trans. on Pattern Analysis and Machine Intelligence*, 22(5) :460–472, May 2000.
- [40] A. Strandlie and J. Zerubia. Particle tracking with iterated Kalman filters and smoothers : the PMHT algorithm. *Computer Physics Communications*, 123 :77–86, December 1999.
- [41] X. Descombes, R.D. Morris, J. Zerubia, and M. Berthod. Estimation of Markov random field prior parameters using Markov chain Monte Carlo maximum likelihood. *IEEE Trans. on Image Processing*, 8(7) :954–963, July 1999.
- [42] Z. Kato, J. Zerubia, and M. Berthod. Unsupervised parallel image classification using Markovian models. *Pattern Recognition*, 32(4) :591–604, April 1999.
- [43] M. Unser and J. Zerubia. A generalized sampling theory without bandlimiting constraints. *IEEE Trans. on Circuits And Systems II*, 45(8) :959–969, August 1998.

- [44] M. Unser and J. Zerubia. Generalized sampling : stability and performance analysis. *IEEE Trans. on Signal Processing*, 45(12) :2941–2950, December 1997.
- [45] T. Sziranyi and J. Zerubia. Markov random field image segmentation using cellular neural network. *IEEE Trans. on Circuits And Systems*, 44(1) :86–89, January 1997.
- [46] M. Berthod, Z. Kato, S. Yu, and J. Zerubia. Bayesian image classification using Markov random fields. *Image and Vision Computing Journal*, 14(4) :285–295, May 1996.
- [47] N. Merlet and J. Zerubia. New prospects in line detection by dynamic programming. *IEEE Trans. on Pattern Analysis and Machine Intelligence*, 18(4) :426–431, April 1996.
- [48] H. Shekarforoush, M. Berthod, J. Zerubia, and M. Werman. Sub-pixel Bayesian estimation of albedo and height. *International Journal on Computer Vision*, 19(3) :289–300, 1996.
- [49] Z. Kato, M. Berthod, and J. Zerubia. A hierarchical Markov random field model and multi temperature annealing for parallel image classification. *Graphical Models and Image Processing*, 58(1) :18–37, January 1996.
- [50] S. Urigo, J. Zerubia, and M. Berthod. A Markovian model for contour grouping. *Pattern Recognition*, 28(5) :683–694, 1995.
- [51] M. Berthod, Z. Kato, and J. Zerubia. DPA : a deterministic approach for the MAP problem. *IEEE Trans. on Image Processing*, 4(9) :1312–1314, September 1995.
- [52] J. Zerubia and R. Chellappa. Mean field annealing using compound GMRF for edge detection and image estimation. *IEEE Trans. on Neural Networks*, 4(4) :703–709, July 1993.
- [53] J. Zerubia and G. Alengrin. Estimation of ARMA(p,q) parameters. *Signal Processing*, pages 53–60, January 1991.
- [54] G. Alengrin and J. Zerubia. A method to estimate the parameters of an ARMA model. *IEEE Trans. on Automatic Control*, pages 1113–1115, December 1987.

## National journal publications

- [1] S. Descamps, X. Descombes, A. Bechet, and J. Zerubia. Détection de flamants roses par processus ponctuels marqués pour l’estimation de la taille des populations. *Traitement du Signal*, 28(2), July 2009.
- [2] F. Lafarge, X. Descombes, J. Zerubia, and S. Mathieu. Détection de feux de forêt par analyse statistique d’évènements rares à partir d’images infrarouges thermiques. *Traitement du Signal*, 24(1) :1–12, 2007.
- [3] F. Lafarge, X. Descombes, J. Zerubia, and M. Pierrot-Deseilligny. Automatic building 3D reconstruction from DEMs. *Revue Française de Photogrammétrie et de Télédétection (SFPT)*, 184 :48–53, 2006.
- [4] F. Lafarge, X. Descombes, J. Zerubia, and M. Pierrot-Deseilligny. Modèle paramétrique pour la reconstruction automatique en 3D de zones urbaines denses à partir d’images satellitaires haute résolution. *Revue Française de Photogrammétrie et de Télédétection (SFPT)*, 180 :4–12, 2005.
- [5] M. Ortner, X. Descombes, and J. Zerubia. Extraction automatique de caricatures de bâtiments à partir de modèles numériques d’élévation par utilisation de processus ponctuels spatiaux. *Bulletin de la Société Française de Photogrammétrie et de Télédétection (SFPT)*, 173-174 :83–92, 2004.
- [6] C. Lacoste, X. Descombes, J. Zerubia, and N. Baghdadi. Extraction automatique des réseaux linéiques à partir d’images satellitaires et aériennes par processus Markov objet. *Bulletin de la Société Française de Photogrammétrie et de Télédétection (SFPT)*, 170 :13–22, 2003.
- [7] G. Rellier, X. Descombes, F. Falzon, and J. Zerubia. Classification de textures hyperspectrales fondée sur un modèle markovien et une technique de poursuite de projection. *Traitement du Signal*, 20(1) :25–42, 2003.
- [8] C. Samson, L. Bland-Féraud, G. Aubert, and J. Zerubia. Deux modèles variationnels pour la classification d’images multispectrales. *Traitement du Signal*, 18(5-6) :345–367, 2001.

- [9] C. Hivernat, X. Descombes, S. Randriamasy, and J. Zerubia. Mise en correspondance d'un couple de réseaux linéaires : applications à l'analyse et au recalage de réseaux routiers extraits d'un couple carte/image SPOT. *Traitement du Signal*, 17(1) :21–32, 2000.
- [10] X. Descombes, R. Morris, and J. Zerubia. Quelques améliorations à la segmentation d'images bayésienne. première partie : modélisation. *Traitement du Signal*, 14(4) :373–382, 1997.
- [11] X. Descombes, R. Morris, and J. Zerubia. Quelques améliorations à la segmentation d'images bayésienne. seconde partie : estimation. *Traitement du Signal*, 14(4) :383–393, 1997.
- [12] S. Urago, M. Berthod, and J. Zerubia. Une extension d'un algorithme proposé par J.L. Marroquin pour la restauration d'image de contours incomplets. application à des images réelles. *Traitement du Signal*, 11(2) :179–194, 1994.
- [13] J. Zerubia and F. Poyette. Détection de contours et restauration d'image par des algorithmes déterministes de relaxation. mise en oeuvre sur la machine à connexions CM2. *Traitement du Signal*, pages 165–179, September 1991.
- [14] J. Zerubia, R. Mayoran, P. Mathieu, and P. Menez. Réduction du bruit par sommation synchrone, application à un codeur de type RELP. *Journal d'Acoustique*, pages 177–181, June 1989.

## Fully reviewed conference publications

- [1] M.S. Kulikova, I.H. Jermyn, X. Descombes, E. Zhizhina, and J. Zerubia. Extraction of arbitrarily shaped objects using stochastic multiple birth-and-death dynamics and active contours. In *IST/SPIE Electronic Imaging*, San Jose, USA, January 2010.
- [2] G. Moser, V. Krylov, S. Serpico, and J. Zerubia. High resolution sar-image classification by markov random fields and finite mixtures. In *IST/SPIE Electronic Imaging*, San Jose, USA, January 2010.
- [3] C. Benedek, X. Descombes, and J. Zerubia. Building extraction and change detection in multitemporal remotely sensed images with multiple birth and death dynamics. In *IEEE Workshop on Applications of Computer Vision (WACV)*, Snowbird, Utah, USA, December 2009.
- [4] F. Arslan, X. Descombes, and J. Zerubia. Object extraction from high resolution SAR images using a birth and death dynamics. In *Proc. International Conference on Image Processing (ICIP)*, Cairo, Egypt, November 2009.
- [5] N. Hadjj Chehade, J-G. Boureau, C. Vidal, and J. Zerubia. Multi-class SVM for forestry classification. In *Proc. International Conference on Image Processing (ICIP)*, Cairo, Egypt, November 2009.
- [6] A. El Ghouli, I.H. Jermyn, and J. Zerubia. A phase field higher-order active contour model of directed networks. In *Proc. Non-Rigid Shape Analysis and Deformable Image Alignment (NORDIA)*, Kyoto, Japan, September 2009.
- [7] A. El Ghouli, I.H. Jermyn, and J. Zerubia. Inflection point model under phase field higher-order active contours for network extraction from VHR satellite images. In *Proc. European Signal Processing Conference (EUSIPCO)*, Glasgow, Scotland, August 2009.
- [8] F. Chatelain, X. Descombes, and J. Zerubia. Parameter estimation for marked point processes. application to object extraction from remote sensing images. In *Proc. International Conference on Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR)*, Bonn, Germany, August 2009.
- [9] M. Carlván, P. Weiss, L. Blanc-Feraud, and J. Zerubia. Complex wavelet regularization for solving inverse problems in remote sensing. In *Proc. IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Cape Town, South Africa, July 2009.
- [10] P. Pankajakshan, L. Blanc-Feraud, and J. Zerubia. Point-spread function retrieval for fluorescence microscopy. In *Proc. IEEE International Symposium on Biomedical Imaging (ISBI)*, Boston, USA, June 2009.
- [11] P. Weiss, M. Carlván, L. Blanc-Feraud, and J. Zerubia. Smoothing techniques for convex problems, applications in image processing. In *Proc. International Conference on Sampling Theory and Applications (SAMPTA)*, Marseille, France, May 2009.

- [12] V. Krylov, G. Moser, S. Serpico, and J. Zerubia. Dictionary-based probability density function estimation for high-resolution SAR data. In *Proc. SPIE Symposium on Electronic Imaging*, San Jose, USA, January 2009.
- [13] A. El Ghouli, I.H. Jermyn, and J. Zerubia. Phase diagram of a long bar under a higher-order active contour energy : application to hydrographic network extraction from VHR satellite images. In *Proc. International Conference on Pattern Recognition (ICPR)*, Tampa, Florida, December 2008.
- [14] T. Peng, I.H. Jermyn, V. Prinet, and J. Zerubia. An extended phase field higher-order active contour model for networks and its application to road network extraction from VHR satellite images. In *Proc. European Conference on Computer Vision (ECCV)*, Marseille, France, October 2008.
- [15] O. Zammit, X. Descombes, and J. Zerubia. Unsupervised one-class SVM using a watershed algorithm and hysteresis thresholding to detect burnt areas. In *Proc. International Conference on Pattern Recognition and Image Analysis (PRIA)*, Nizhny Novgorod, Russia, September 2008.
- [16] O. Zammit, X. Descombes, and J. Zerubia. Combining one-class support vector machines and hysteresis thresholding : application to burnt area mapping. In *Proc. European Signal Processing Conference (EUSIPCO)*, Lausanne, Switzerland, August 2008.
- [17] R. Gaetano, G. Scarpa, G. Poggi, and J. Zerubia. Unsupervised hierarchical image segmentation based on the TS-MRF model and fast mean-shift clustering. In *Proc. European Signal Processing Conference (EUSIPCO)*, Lausanne, Switzerland, August 2008.
- [18] F. Lafarge, M. Durupt, X. Descombes, J. Zerubia, and M. Pierrot-Deseilligny. A new computationally efficient stochastic approach for building reconstruction from satellite data. In *Proc. XX International Society for Photogrammetry and Remote Sensing (ISPRS) Congress, Part A*, Beijing, China, July 2008.
- [19] A. Bhattacharya, M. Roux, H. Maitre, I.H. Jermyn, X. Descombes, and J. Zerubia. Indexing of mid-resolution satellite images with structural attribute. In *Proc. XX International Society for Photogrammetry and Remote Sensing (ISPRS) Congress, Part A*, Beijing, China, July 2008.
- [20] T. Peng, I.H. Jermyn, V. Prinet, and J. Zerubia. Extraction of main and secondary roads in VHR images using a higher-order phase field model. In *Proc. XX International Society for Photogrammetry and Remote Sensing (ISPRS) Congress, Part A*, Beijing, China, July 2008.
- [21] F. Lafarge, X. Descombes, J. Zerubia, and M. Pierrot-Deseilligny. Building reconstruction from a single DEM. In *Proc. IEEE Computer Vision and Pattern Recognition (CVPR)*, Anchorage, Alaska, USA, June 2008.
- [22] P. Pankajakshan, B. Zhang, L. Blanc-Féraud, Z. Kam, J.C. Olivo-Marin, and J. Zerubia. Blind deconvolution for diffraction-limited fluorescence microscopy. In *Proc. IEEE International Symposium on Biomedical Imaging (ISBI)*, Paris, France, May 2008.
- [23] F. Lafarge, X. Descombes, J. Zerubia, and M. Pierrot-Deseilligny. Automatic 3D modeling of urban scenes from satellite images. In *Proc. Space Appli*, Toulouse, France, April 2008.
- [24] S. Descamps, X. Descombes, A. Béchet, and J. Zerubia. Automatic flamingo detection using a multiple birth and death process. In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Las-Vegas, USA, April 2008.
- [25] E. Bughin, L. Blanc-Féraud, and J. Zerubia. Satellite image reconstruction from an irregular sampling. In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Las Vegas, USA, April 2008.
- [26] A. Fournier, X. Descombes, and J. Zerubia. Mixing geometric and radiometric features for change classification. In *Proc. SPIE Symposium on Electronic Imaging*, San Jose, USA, January 2008.
- [27] F. Lafarge, X. Descombes, and J. Zerubia. Forest fire detection based on Gaussian field analysis. In *European Signal Processing Conference (EUSIPCO)*, Poznan, Poland, September 2007.
- [28] M.S. Kulikova, M. Mani, A. Srivastava, X. Descombes, and J. Zerubia. Tree species classification using radiometry, texture and shape based features. In *Proc. European Signal Processing Conference (EUSIPCO)*, Poznan, Poland, September 2007.

- [29] F. Lafarge, X. Descombes, J. Zerubia, and M. Pierrot-Deseilligny. 3D city modeling based on hidden Markov model. In *Proc. IEEE International Conference on Image Processing (ICIP)*, San Antonio, USA, September 2007.
- [30] C. Benedek, T. Szirányi, Z. Kato, and J. Zerubia. A multi-layer MRF model for object-motion detection in unregistered airborne image-pairs. In *Proc. IEEE International Conference on Image Processing (ICIP)*, San Antonio, Texas, USA, September 2007.
- [31] T. Peng, I.H. Jermyn, V. Prinet, J. Zerubia, and B. Hu. A phase field model incorporating generic and specific prior knowledge applied to road network extraction from VHR satellite images. In *Proc. British Machine Vision Conference (BMVC)*, Warwick, United Kingdom, September 2007.
- [32] P. Pankajakshan, B. Zhang, L. Blanc-Féraud, Z. Kam, J.C. Olivo-Marin, and J. Zerubia. Parametric blind deconvolution for confocal laser scanning microscopy. In *Proc. 29th International Conference of IEEE EMBS (EMBC-07)*, Lyon, France, August 2007.
- [33] C. Chaux, L. Blanc-Féraud, and J. Zerubia. Wavelet-based restoration methods : application to 3D confocal microscopy images. In *Proc. SPIE Conference on Wavelets*, San Diego, CA, USA, August 2007.
- [34] O. Zammit, X. Descombes, and J. Zerubia. Assessment of different classification algorithms for burnt land discrimination. In *Proc. IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Barcelona, Spain, July 2007.
- [35] G. Scarpa, M. Haindl, and J. Zerubia. A hierarchical texture model for unsupervised segmentation of remotely sensed images. In *Proc. Scandinavian Conference on Image Analysis (SCIA)*, volume 4522/2007 of *LNCS 4522*, Aalborg, Denmark, June 2007.
- [36] A. Bhattacharya, M. Roux, H. Maitre, I.H. Jermyn, Descombes X., and J. Zerubia. Indexing satellite images with features computed from man-made structures on the Earth's surface. In *Proc. International Workshop on Content-Based Multimedia Indexing (CBMI)*, Bordeaux, France, June 2007.
- [37] A. Fournier, X. Descombes, and J. Zerubia. Vers une détection et une classification non-supervisées des changements inter-images. In *Proc. Traitement et Analyse de l'Information - Méthodes et Applications (TAIMA)*, Hammamet, Tunisia, May 2007.
- [38] G. Scarpa, M. Haindl, and J. Zerubia. A hierarchical finite-state model for texture segmentation. In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Honolulu, USA, April 2007.
- [39] T. Peng, I.H. Jermyn, V. Prinet, and J. Zerubia. Urban road extraction from VHR images using a multiscale image model and a phase field model of network geometry. In *Proc. Urban*, Paris, France, April 2007.
- [40] P. Horvath, I.H. Jermyn, Z. Kato, and J. Zerubia. Circular object segmentation using higher-order active contours. In *In Proc. Conference of the Hungarian Association for Image Analysis and Pattern Recognition (KEPAF)*, Debrecen, Hungary, January 2007.
- [41] P. Horvath, I.H. Jermyn, Z. Kato, and J. Zerubia. An improved "gas of circles" higher-order active contour model and its application to tree crown extraction. In *Proc. Indian Conference on Computer Vision, Graphics, and Image Processing (ICVGIP)*, Madurai, India, December 2006.
- [42] O. Zammit, X. Descombes, and J. Zerubia. Burnt area mapping using support vector machines. In *Proc. International Conference on Forest Fire Research*, Figueira da Foz, Portugal, November 2006.
- [43] F. Lafarge, X. Descombes, J. Zerubia, and M. Pierrot-Deseilligny. An automatic building reconstruction method : A structural approach using high resolution images. In *Proc. IEEE International Conference on Image Processing (ICIP)*, Atlanta, USA, October 2006.
- [44] A. Bhattacharya, I.H. Jermyn, X. Descombes, and J. Zerubia. Computing statistics from a graph representation of road networks in satellite images for indexing and retrieval. In *Proc. CompImage*, Coimbra, Portugal, October 2006.
- [45] J. Aubray, I.H. Jermyn, and J. Zerubia. Nonlinear models for the statistics of adaptive wavelet packet coefficients of texture. In *Proc. European Signal Processing Conference (EUSIPCO)*, Florence, Italy, September 2006.

- [46] G. Perrin, X. Descombes, and J. Zerubia. 2D and 3D vegetation resource parameters assessment using marked point processes. In *Proc. International Conference on Pattern Recognition (ICPR)*, Hong-Kong, China, August 2006.
- [47] P. Horvath, I.H. Jermyn, Z. Kato, and J. Zerubia. A higher-order active contour model for tree detection. In *Proc. International Conference on Pattern Recognition (ICPR)*, Hong-Kong, China, August 2006.
- [48] F. Lafarge, X. Descombes, J. Zerubia, and M. Pierrot-Deseilligny. Automatic 3D building reconstruction from DEMs : an application to PLEIADES simulations. In *Proc. International Society for Photogrammetry and Remote Sensing Commission I Symposium (ISPRS)*, Marne La Vallee, France, July 2006.
- [49] M. Eriksson, G. Perrin, X. Descombes, and J. Zerubia. A comparative study of three methods for identifying individual tree crowns in aerial images covering different types of forests. In *Proc. International Society for Photogrammetry and Remote Sensing Commission I Symposium (ISPRS)*, Marne La Vallee, France, July 2006.
- [50] F. Lafarge, X. Descombes, J. Zerubia, and M. Pierrot-Deseilligny. An automatic 3D city model : a Bayesian approach using satellite images. In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Toulouse, France, May 2006.
- [51] P. Gernez, X. Descombes, J. Zerubia, E. Slezak, and A. Bijaoui. Galaxy filament detection using the quality candy model. In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Toulouse, France, May 2006.
- [52] M. Ortner, X. Descombes, and J. Zerubia. Point process of segments and rectangles for building extraction from DEM. In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Toulouse, France, May 2006.
- [53] G. Perrin, X. Descombes, J. Zerubia, and J.G. Boureau. Forest resource assessment using stochastic geometry. In *Proc. International Precision Forestry Symposium*, March 2006.
- [54] B. Zhang, J. Zerubia, and J.C. Olivo-Marin. A study of Gaussian approximations of fluorescence microscopy PSF models. In *Three-Dimensional and Multidimensional Microscopy : Image Acquisition and Processing XIII of Proc. SPIE, in press*, volume 6090, San Jose, USA, January 2006.
- [55] G. Perrin, X. Descombes, and J. Zerubia. Adaptive simulated annealing for energy minimization problem in a marked point process application. In *Proc. Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR)*, St Augustine, Florida, USA, November 2005.
- [56] M. Rochery, I.H. Jermyn, and J. Zerubia. Phase field models and higher-order active contours. In *Proc. IEEE International Conference on Computer Vision (ICCV)*, Beijing, China, October 2005.
- [57] G. Perrin, X. Descombes, and J. Zerubia. A marked point process model for tree crown extraction in plantations. In *Proc. IEEE International Conference on Image Processing (ICIP)*, Genoa, Italy, September 2005.
- [58] G.C.K. Abhayaratne, I.H. Jermyn, and J. Zerubia. Texture-adaptive mother wavelet selection for texture analysis. In *Proc. IEEE International Conference on Image Processing (ICIP)*, Genoa, Italy, September 2005.
- [59] M. Rochery, I.H. Jermyn, and J. Zerubia. New higher-order active contour energies for network extraction. In *Proc. IEEE International Conference on Image Processing (ICIP)*, Genoa, Italy, September 2005.
- [60] F. Lafarge, X. Descombes, and J. Zerubia. Textural kernel for SVM classification in remote sensing : Application to forest fire detection and urban area extraction. In *Proc. IEEE International Conference on Image Processing (ICIP)*, Genoa, Italy, September 2005.
- [61] C. Lacoste, X. Descombes, J. Zerubia, and N. Baghdadi. Extraction of hydrographic networks from satellite images using a hierarchical model within a stochastic geometry framework. In *Proc. European Signal Processing Conference (EUSIPCO)*, Antalya, Turkey, September 2005.

- [62] A. Achim, E.E. Kuruoglu, and J. Zerubia. Maximum a posteriori estimation of Radar cross section in SAR images using the heavy-tailed Rayleigh model. In *Proc. European Signal Processing Conference (EUSIPCO)*, Antalya, Turkey, September 2005.
- [63] P. Horvath, A. Bhattacharya, I.H. Jermyn, J. Zerubia, and Z. Kato. Shape moments for region-based active contours. In *Proc. Hungarian-Austrian Conference on Image Processing and Pattern Recognition*, Szeged, Hungary, May 2005.
- [64] G. Pons Bernad, L. Blanc-Féraud, and J. Zerubia. A restoration method for confocal microscopy using complex wavelet transform. In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Philadelphia, USA, March 2005.
- [65] R. Cossu, I.H. Jermyn, and J. Zerubia. Multimodal statistics of adaptive wavelet packet coefficients : experimental evidence and theory. In *Proc. Physics in Signal and Image Processing*, Toulouse, France, January 2005.
- [66] R. Cossu, I.H. Jermyn, and J. Zerubia. Texture discrimination using multimodal wavelet packet subbands. In *Proc. IEEE International Conference on Image Processing (ICIP)*, Singapore, October 2004.
- [67] G. Poggi, G. Scarpa, and J. Zerubia. Segmentation of remote sensing images by supervised TS-MRF. In *Proc. IEEE International Conference on Image Processing (ICIP)*, Singapore, October 2004.
- [68] M. Rochery, I.H. Jermyn, and J. Zerubia. Gap closure in (road) networks using higher-order active contours. In *Proc. IEEE International Conference on Image Processing (ICIP)*, Singapore, October 2004.
- [69] G.C.K. Abhayaratne, I.H. Jermyn, and J. Zerubia. Texture analysis using adaptative biorthogonal wavelet packets. In *Proc. IEEE International Conference on Image Processing (ICIP)*, Singapore, October 2004.
- [70] C. Lacoste, X. Descombes, J. Zerubia, and N. Baghdadi. Unsupervised line network extraction from remotely sensed images by polyline process. In *Proc. European Signal Processing Conference (EUSIPCO)*, University of Technology, Vienna, Austria, September 2004.
- [71] M. Ortner, X. Descombes, and J. Zerubia. A discontinuity detector for building extraction from digital elevation models by stochastic geometry. In *Proc. European Signal Processing Conference (EUSIPCO)*, University of Technology, Vienna, Austria, September 2004. Best Paper Award (Young author).
- [72] G. Moser, J. Zerubia, and S.B. Serpico. SAR amplitude probability density function estimation based on a generalized Gaussian scattering model. In *Proc. SPIE Symposium on Remote Sensing*, Maspalomas, Gran Canaria, Spain, September 2004.
- [73] G. Moser, J. Zerubia, and S.B. Serpico. Finite mixture models and stochastic EM for SAR amplitude probability density function estimation based on a dictionary of parametric families. In *Proc. IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Anchorage, USA, September 2004.
- [74] G. Perrin, X. Descombes, and J. Zerubia. Tree crown extraction using marked point processes. In *Proc. European Signal Processing Conference (EUSIPCO)*, University of Technology, Vienna, Austria, September 2004.
- [75] M. Ortner, X. Descombes, and J. Zerubia. A reversible jump MCMC sampler for building detection in image processing. In *Monte Carlo Methods and Quasi-Monte Carlo Methods*, Juan les Pins, France, June 2004.
- [76] C. Lacoste, X. Descombes, J. Zerubia, and N. Baghdadi. A Bayesian geometric model for line network extraction from satellite images. In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Montreal, Quebec, Canada, May 2004.
- [77] R. Cossu, I.H. Jermyn, and J. Zerubia. Texture analysis using probabilistic models of the unimodal and multimodal statistics of adaptative wavelet packet coefficients. In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Montreal, Quebec, Canada, May 2004.

- [78] N. Dey, L. Blanc-Féraud, C. Zimmer, Z. Kam, J.C. Olivo-Marin, and J. Zerubia. Deconvolution in confocal microscopy with total variation regularization. In *Proc. French-Danish Workshop on Spatial Statistics and Image Analysis in Biology (SSIAB)*, pages 117–120, May 2004.
- [79] N. Dey, L. Blanc-Féraud, C. Zimmer, Z. Kam, J.C. Olivo-Marin, and J. Zerubia. A deconvolution method for confocal microscopy with total variation regularization. In *Proc. IEEE International Symposium on Biomedical Imaging (ISBI)*, Arlington, USA, April 2004.
- [80] X. Descombes, F. Kruggel, C. Lacoste, M. Ortner, G. Perrin, and J. Zerubia. Marked point process in image analysis : from context to geometry. In *International Conference on Spatial Point Process Modelling and its Application (SPPA)*, Castellon, Spain, April 2004.
- [81] M. Ortner, X. Descombes, and J. Zerubia. Un nouveau modèle pour l'extraction de caricatures de bâtiments sur des modèles numériques d'Élévation. In *Proc. Traitement et Analyse de l'Information - Méthodes et Applications (TAIMA)*, Hammamet, Tunisia, October 2003.
- [82] R. Willett, I.H. Jermyn, R. Nowak, and J. Zerubia. Wavelet-based superresolution in astronomy. In *Proc. Astronomical Data Analysis Software and Systems*, Strasbourg, France, October 2003.
- [83] M. Rochery, I.H. Jermyn, and J. Zerubia. Higher order active contours and their application to the detection of line networks in satellite imagery. In *Proc. IEEE Workshop Variational, Geometric and Level Set Methods in Computer Vision*, ICCV, Nice, France, October 2003.
- [84] K. Brady, I.H. Jermyn, and J. Zerubia. Texture analysis : An adaptive probabilistic approach. In *Proc. IEEE International Conference on Image Processing (ICIP)*, Barcelona, Spain, September 2003.
- [85] C. Lacoste, X. Descombes, and J. Zerubia. Road network extraction in remote sensing by a Markov object process. In *Proc. IEEE International Conference on Image Processing (ICIP)*, Barcelona, Spain, September 2003.
- [86] K. Brady, I.H. Jermyn, and J. Zerubia. Adaptive probabilistic models of wavelet packets for the analysis and segmentation of textured remote sensing images. In *Proc. British Machine Vision Conference (BMVC)*, Norwich, United Kingdom, September 2003.
- [87] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. Natural image modeling using complex wavelets. In *Proc. SPIE Conference on Wavelets*, volume 5207, San Diego, August 2003.
- [88] S. Drot, H. Le Men, X. Descombes, and J. Zerubia. Remotely sensed image segmentation using an object point process. In *Proc. IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Toulouse, France, July 2003.
- [89] F. Cerdat, X. Descombes, and J. Zerubia. Urban scene rendering using object description. In *Proc. IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Toulouse, France, July 2003.
- [90] M. Ortner, X. Descombes, and J. Zerubia. Building extraction from digital elevation model. In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Hong Kong, China, April 2003.
- [91] O. Viveros-Cancino, X. Descombes, J. Zerubia, and N. Baghdadi. Fusion for radiometry and textural information for SIR-C image classification. In *Proc. ICIP*, Rochester, USA, September 2002.
- [92] A. Jalobeanu, R. Nowak, J. Zerubia, and M. Figueiredo. Satellite and aerial image deconvolution using an EM method with complex wavelets. In *Proc. ICIP*, Rochester, USA, September 2002.
- [93] J. Zerubia. Image processing for high resolution satellite and aerial data. In *conférence plénière, Proc. EUSIPCO*, Toulouse, September 2002.
- [94] S. Wilson and J. Zerubia. Unsupervised segmentation of textured satellite and aerial images with Bayesian methods. In *Proc. EUSIPCO*, Toulouse, France, September 2002.
- [95] S. Drot, X. Descombes, H. Le Men, and J. Zerubia. Object point processes for image segmentation. In *Proc. ICPR*, Quebec, Canada, August 2002.
- [96] G. Rellier, X. Descombes, J. Zerubia, and Falzon F. A Gauss-Markov model for hyperspectral texture analysis of urban areas. In *Proc. ICPR*, Quebec, Canada, August 2002.

- [97] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. Estimation of blur and noise parameters in remote sensing. In *Proc. ICASSP*, Orlando, USA, May 2002.
- [98] L. Garcin, X. Descombes, J. Zerubia, and H. Le Men. Building extraction using a Markov point process. In *papier invité, Proc. ICIP*, Thessaloniki, Greece, October 2001.
- [99] A. Jalobeanu, N. Kingsbury, and J. Zerubia. Image deconvolution using hidden Markov tree modeling of complex wavelet packets. In *Proc. ICIP*, Thessaloniki, Greece, October 2001.
- [100] C. Samson, L. Blanc-Féraud, G. Aubert, and J. Zerubia. Two variational models for multispectral image classification. In *Proc. EMMCVPR*, Sophia Antipolis, France, September 2001.
- [101] X. Descombes, M.C. Van Lieshout, R. Stoica, and J. Zerubia. Parameter estimation by a Markov Chain Monte Carlo technique for the Candy-model. In *Proc. IEEE Workshop on Statistical Signal Processing*, Singapore, August 2001. papier invité.
- [102] E. Kuruoglu and J. Zerubia. Modelling images with alpha-stable textures. In *Proc. PSIP*, Marseille, France, January 2001.
- [103] C.G. Molina and J. Zerubia. Regularisation by convolution in probability density estimation is equivalent to jittering. In *Proc. IEEE International Workshop on Neural Networks for Signal Processing*, Sydney, Australia, December 2000.
- [104] E. Kuruoglu and J. Zerubia. Modelling SAR images with a generalisation of the Rayleigh distribution. In *Proc. Asilomar Conference*, USA, October 2000.
- [105] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. Estimation of adaptive parameters for satellite image deconvolution. In *Proc. ICPR*, Barcelona, Spain, September 2000.
- [106] A. Lorette, X. Descombes, and J. Zerubia. Fully unsupervised fuzzy clustering with entropy criterion. In *Proc. ICPR*, Barcelona, Spain, September 2000.
- [107] G. Rellier, X. Descombes, and J. Zerubia. Deformation of a cartographic road network on a SPOT satellite images. In *Proc. ICIP*, Vancouver, Canada, September 2000.
- [108] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. Satellite image deconvolution using complex wavelet packets. In *Proc. ICIP*, Vancouver, Canada, September 2000.
- [109] R. Stoica, X. Descombes, and J. Zerubia. Road extraction in remote sensed images using a stochastic geometry framework. In *Proc. MaxEnt*, Gif sur Yvette, France, July 2000.
- [110] L. Blanc-Féraud, C. Samson, G. Aubert, and J. Zerubia. Multiphase evolution and variational image classification. In *Proc. SIMAI*, Ischia, Italy, June 2000. papier invité.
- [111] X. Descombes, R. Stoica, and J. Zerubia. Two Markov point processes for simulating line networks. In *Proc. ICIP*, Kobe, Japan, October 1999. papier invité.
- [112] A. Lorette, X. Descombes, and J. Zerubia. Texture analysis through Markov random fields : Urban areas extractions. In *Proc. ICIP*, Kobe, Japan, October 1999.
- [113] C. Samson, L. Blanc-Féraud, G. Aubert, and J. Zerubia. A level set model for image classification. In *Proc. Scale Space Theory in Computer Vision*, Corfu, Greece, September 1999.
- [114] X. Descombes, C. Hivernat, S. Randriamasy, and J. Zerubia. Graph-matching model using Gibbsian modeling : application to map-SPOT image road networks for map updating. In *Proc. International Symposium on Optical Science, Engineering and Instrumentation : Bayesian Inference for Inverse Problem*, Denver, USA, July 1999.
- [115] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. Deconvolution d'images satellitaires : modeles et estimation de parametres. In *Proc. Traitement et Analyse de l'Information Methodes et Applications (TAIMA)*, Hammamet, Tunisia, March 1999.
- [116] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. Hyperparameter estimation for satellite image restoration by a MCMCML method. In *EMMCVPR*, York, United Kingdom, July 1999.
- [117] C. Samson, L. Blanc-Féraud, G. Aubert, and J. Zerubia. Simultaneous image classification and restoration using a variational approach. In *Proc. CVPR*, Fort Collins, USA, June 1999.

- [118] C. Hivernat, S. Randriamasy, X. Descombes, and J. Zerubia. Qualification automatique des résultats d'une mise en correspondance de réseaux routiers en vue de la mise à jour cartographique. In *Proc. ISPRS Working Group II/6 Workshop on : 3D Geospatial Data Production : Meeting Application Requirements*, Paris, France, April 1999.
- [119] N. Merlet and J. Zerubia. Auxiliary functions and optimal scanning for road detection by dynamic programming. In *Proc. ICASSP*, Phoenix, USA, March 1999.
- [120] M. Khoumri, L. Blanc-Féraud, and J. Zerubia. Unsupervised deconvolution of satellite images. In *Proc. ICIP*, Chicago, USA, October 1998.
- [121] R. Stoica, J. Zerubia, and J.M. Francos. Image retrieval and indexing : A hierarchical approach in computing the distance between textured images. In *Proc. ICIP*, Chicago, USA, October 1998.
- [122] F. Richard, F. Falzon, J. Zerubia, and G. Giraudon. Segmentation of urban areas in Spot images using MRF. In *Proc. EUSIPCO*, Rhodes, Greece, September 1998.
- [123] J. Zerubia and L. Blanc-Féraud. Hyperparameter estimation of a variational model using a stochastic gradient. In *Proc. International Symposium on Optical Science, Engineering and Instrumentation : Bayesian Inference for Inverse Problem*, San Diego, USA, July 1998.
- [124] H. Shekarforoush, J. Zerubia, and M. Berthod. Denoising by extracting fractional order singularities. In *Proc. ICASSP*, Seattle, USA, May 1998.
- [125] R. Stoica, J. Zerubia, and J.M. Francos. The two-dimensional Wold decomposition for segmentation and indexing in image libraries. In *Proc. ICASSP*, Seattle, USA, May 1998.
- [126] A. Lorette, H. Shekarforoush, and J. Zerubia. Super-resolution with adaptive regularization. In *Proc. ICIP*, Santa Barbara, USA, October 1997.
- [127] R. Morris, X. Descombes, and J. Zerubia. Fully Bayesian image segmentation - an engineering perspective. In *Proc. ICIP*, Santa Barbara, USA, October 1997.
- [128] T. Sziranyi, J. Zerubia, D. Geldreich, Z. Kato, and L. Czuni. MRF based image segmentation with fully parallel cellular nonlinear networks. In *Proc. KEPAF*, Keszthely, Hungary, October 1997.
- [129] L. Czuni, T. Sziranyi, and J. Zerubia. Multigrid MRF picture segmentation with cellular neural network. In *Proc. CAIP*, Kiel, Germany, September 1997.
- [130] X. Descombes, R. Morris, J. Zerubia, and M. Berthod. Maximum likelihood estimation of Markovian prior parameters using MCMC. In *Proc. EMMCVPR*, Venice, Italy, May 1997.
- [131] M. Unser and J. Zerubia. Generalized sampling without bandlimiting constraints. In *Proc. ICASSP*, Munich, Germany, April 1997.
- [132] R.D. Morris, X. Descombes, and J. Zerubia. The Ising/Potts model is not well suited to segmentation tasks. In *Proc. IEEE Digital Signal Processing Workshop*, Loen, Norway, September 1996.
- [133] C. Lett and J. Zerubia. Data fusion for image classification using Markov random field model. In *Proc. SPIE*, Besançon, France, June 1996.
- [134] N. Merlet and J. Zerubia. Auxiliary functions in dynamic programming for smoothed road detection. In *Proc. SPIE*, Besançon, France, June 1996.
- [135] T. Sziranyi, J. Zerubia, D. Geldreich, and Kato Z. Cellular neural networks for Markov random field image segmentation. In *Proc. CNNA*, Seville, Spain, June 1996.
- [136] H. Shekarforoush, M. Berthod, and J. Zerubia. A generalization of non-linear simplex search method. In *Proc. SIAM Conf. on Optimization*, Victoria, Canada, May 1996.
- [137] C. Lett and J. Zerubia. Data fusion for image classification using a Markov random field model. In *Proc. IMDSP*, Belize City, Belize, March 1996.
- [138] H. Shekarforoush, M. Berthod, and J. Zerubia. 3D superresolution using generalized sampling expansion. In *Proc. ICIP*, Washington DC, USA, October 1995.
- [139] H. Shekarforoush, M. Berthod, and J. Zerubia. Sub-pixel reconstruction of a variable albedo lambertian surface. In *Proc. BMVC*, Birmingham, United Kingdom, September 1995.

- [140] E. Cubero-Castan, I. Pons, and J. Zerubia. Evaluation on Spot data of classification algorithms based on Markovian modelization. In *Proc. IGARSS*, Florence, Italy, July 1995.
- [141] C. Graffigne, F. Heitz, P. Perez, F. Preteux, M. Sigelle, and J. Zerubia. Hierarchical Markov random field models applied to image analysis : a review. In *Proc. SPIE Conf. On neural, morphological, stochastic methods in image and signal processing*, San Diego, USA, July 1995. papier invité.
- [142] Z. Kato, J. Zerubia, and M. Berthod. Parallel image classification using a hierarchical Markovian model. In *Proc. ICCV*, Boston, USA, June 1995.
- [143] Z. Kato, J. Zerubia, M. Berthod, and W. Pieczynski. Unsupervised adaptive image segmentation. In *Proc. ICASSP*, Detroit, USA, May 1995.
- [144] S. Urago, J. Zerubia, and M. Berthod. A Markovian model for contour grouping. In *Proc. ICPR*, Jerusalem, Israel, October 1994.
- [145] J. Zerubia, Z. Kato, and M. Berthod. Multi-temperature annealing : a new approach for the energy minimization of hierarchical Markov random field models. In *Proc. ICPR*, Jerusalem, Israel, October 1994.
- [146] M. Berthod, H. Shekarforoush, and J. Werman, M. and Zerubia. Reconstruction of high resolution 3D visual information using sub-pixel camera displacements. In *Proc. CVPR*, Seattle, USA, June 1994.
- [147] D. Murray and J. Zerubia. Multi-spectral data fusion using a MRF model : application to satellite image classification. In *Proc. SSAP*, Québec, Canada, June 1994.
- [148] N. Merlet and J. Zerubia. New prospects in line detection for remote sensing images. In *Proc. ICASSP*, Adelaide, Australia, April 1994.
- [149] F. Mangin, M. Berthod, and J. Zerubia. Local edge grouping using a cooperative network. In *Proc. NNASP*, Singapore, August 1993.
- [150] S. Urago, M. Berthod, and J. Zerubia. Restoration of incomplete contour images using Markov random fields. In *Proc. IPTA*, San-Remo, Italy, June 1993.
- [151] Z. Kato, M. Berthod, and J. Zerubia. Multiscale Markov random field models for parallel image classification. In *Proc. ICCV*, Berlin, Germany, May 1993.
- [152] N. Merlet and J. Zerubia. A curvature dependent energy function for detecting lines in satellite images. In *Proc. SCIA*, Tromso, Norway, May 1993.
- [153] Z. Kato, M. Berthod, and J. Zerubia. Parallel image classification using multiscale Markov random fields. In *Proc. ICASSP*, Minneapolis, USA, April 1993.
- [154] F. Mangin, M. Berthod, and J. Zerubia. A cooperative network for contour grouping. In *Proc. ICPR*, The Hague, Netherlands, September 1992.
- [155] F. Van der Putten and J. Zerubia. A universal knowledge-based imaging system for hazardous environments. In *Proc. ICPR*, The Hague, Netherlands, September 1992.
- [156] Z. Kato, J. Zerubia, and M. Berthod. Bayesian image classification using Markov random fields. In *Proc. MaxEnt*, Paris, France, July 1992.
- [157] Z. Kato, J. Zerubia, and M. Berthod. Satellite image classification using a modified Metropolis dynamics. In *Proc. ICASSP*, San Francisco, USA, March 1992.
- [158] J. Zerubia. Parallel algorithms for low level vision on a connection machine (CM2). In *Proc. 4th Franco-Japanese Symposium on Artificial Intelligence and Information*, Rennes, France, July 1991. papier invité.
- [159] J. Zerubia and F. Ployette. Parallel algorithms for early vision on a connection machine. In *Proc. IMACS*, Dublin, Ireland, July 1991.
- [160] J. Zerubia and D. Geiger. Image segmentation using 4 direction line-processes and winner-take-all. In *Proc. ICANN*, Espoo, Finland, June 1991.
- [161] J. Zerubia and D. Geiger. Parallel deterministic algorithms for image processing on a connection machine CM2. In *Proc. Int. Colloquium on Parallel Image Processing*, Paris, France, June 1991.

- [162] J. Zerubia and R. Chellappa. Mean field annealing for edge detection and image restoration. In *Proc. EUSIPCO*, Barcelon, Spain, September 1990.
- [163] J. Zerubia and R. Chellappa. Mean field approximation using compound Gauss-Markov random fields for edge detection and image restoration. In *Proc. ICASSP*, Albuquerque, USA, April 1990.
- [164] I. Ribeiro, J. Zerubia, J. Moura, and G. Alengrin. Comparison of two ARMA estimators. In *Proc. ICASSP*, Glasgow, United Kingdom, May 1989.
- [165] J. Zerubia, G. Alengrin, and J. Menez. Parameter estimation of noisy signals. In *Proc. EUSIPCO*, Grenoble, France, September 1988.
- [166] G. Alengrin and J. Zerubia. Estimation of ARMA parameters and Kalman filtering. In *Proc. IFAC Symposium on identification and system parameter estimation*, Beijing, China, August 1988.
- [167] J. Zerubia, G. Alengrin, and H. Rix. Performance evaluation of an ARMA estimator. In *Proc. ICASSP*, New York, USA, Avril 1988.
- [168] J. Zerubia, M. Barlaud, J. Menez, and G. Alengrin. Spectral estimation of noisy speech. In *Proc. ICDSIP*, Florence, Italy, September 1987.
- [169] J. Zerubia, H. Mathieu, and J. Menez. Using synchronous averaging to enhance noisy speech. In *Proc. INTERNOISE*, Beijing, China, September 1987.
- [170] R. Charbonnier, M. Barlaud, G. Alengrin, J. Menez, and J. Zerubia. Identification methods for non-stationary signals. In *Proc. EUSIPCO*, The Hague, Netherlands, September 1986.

## National conferences with reading panel

- [1] F. Chatelain, X. Descombes, and J. Zerubia. Estimation des paramètres de processus ponctuels marqués dans le cadre de l'extraction d'objets en imagerie de télédétection. In *GRETSI*, Dijon, France, September 2009.
- [2] M. Carlván, P. Weiss, L. Blanc-Féraud, and J. Zerubia. Algorithme rapide pour la restauration d'image régularisée sur les coefficients d'ondelettes. In *GRETSI*, Dijon, France, September 2009.
- [3] A. El Ghou, I.H. Jermyn, and J. Zerubia. Diagramme de phase d'une énergie de type contours actifs d'ordre supérieur : le cas d'une barre longue. In *16ème congrès francophone AFRIF-AFIA Reconnaissance des Formes et Intelligence Artificielle (RFIA)*, Amiens, France, January 2008.
- [4] O. Zammit, X. Descombes, and J. Zerubia. Apprentissage non supervisé des SVM par un algorithme des k-moyennes entropique pour la détection de zones brûlées. In *Proc. GRETSI*, Troyes, France, September 2007.
- [5] G. Perrin, X. Descombes, and J. Zerubia. Évaluation des ressources forestières à l'aide de processus ponctuels marqués. In *Proc. Reconnaissance des Formes et Intelligence Artificielle (RFIA)*, Tours, France, January 2006.
- [6] F. Lafarge, X. Descombes, J. Zerubia, and S. Mathieu-Marni. Détection de feux de forêt à partir d'images satellitaires IRT par analyse statistique d'évènements rares. In *Proc. GRETSI*, Louvain-la-Neuve, Belgique, September 2005.
- [7] M. Ortner, X. Descombes, and J. Zerubia. Extraction automatique de caricatures de bâtiments sur des modèles numériques d'Élévation. In *Pixels et Cités*, ENSG, Marne la Vallée, France, November 2003.
- [8] M. Rochery, I.H. Jermyn, and J. Zerubia. Étude d'une nouvelle classe de contours actifs pour la détection de routes dans des images de télédétection. In *Proc. GRETSI*, Paris, France, September 2003.
- [9] C. Lacoste, X. Descombes, J. Zerubia, and N. Baghdadi. Extraction de réseaux linéiques à partir d'images satellitaires par processus Markov objet. In *Proc. GRETSI*, Paris, France, September 2003.
- [10] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. Estimation de paramètres instrumentaux en imagerie satellitaire. In *Proc. GRETSI*, Toulouse, France, September 2001.
- [11] O. Pony, U. Pulverini, L. Gautret, J. Zerubia, and X. Descombes. Classification d'image satellitaire superspectrale en zone rurale et périurbaine. In *Proc. GRETSI*, Toulouse, France, September 2001.

- [12] G. Rellier, X. Descombes, J. Zerubia, and F. Falzon. Un modèle markovien gaussien pour l'analyse de texture hyperspectrale en milieu urbain. In *Proc. GRETSI*, Toulouse, France, September 2001.
- [13] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. Estimation rapide du paramètre de régularisation en déconvolution dimages. In *Proc. ORASIS*, Cahors, France, June 2001.
- [14] G. Rellier, X. Descombes, J. Zerubia, and F. Falzon. La poursuite de projection pour la classification d'images hyperspectrales texturées. In *Proc. ORASIS*, Cahors, France, June 2001.
- [15] O. Viveros-Cancino, X. Descombes, and J. Zerubia. Apport de l'imagerie radar pour l'extraction des zones urbaines. In *Proc. ORASIS*, Cahors, France, June 2001.
- [16] A. Lorette, X. Descombes, and J. Zerubia. Modélisation markovienne multi-directionnelle : Application à l'extraction des zones urbaines. In *Proc. RFIA*, Paris, France, February 2000.
- [17] C. Samson, L. Blanc-Féraud, G. Aubert, and J. Zerubia. Une approche variationnelle pour la classification d'images par régions actives. In *Proc. RFIA*, Paris, France, February 2000.
- [18] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. Restauration automatique d'images satellitaires par une méthode MCMC. In *Proc. GRETSI*, Vannes, France, September 1999.
- [19] C. Samson, L. Blanc-Féraud, G. Aubert, and J. Zerubia. Classification et restauration d'images par approche variationnelle. In *Proc. ORASIS*, Aussois, France, April 1999.
- [20] A. Lorette, H. Shekarforoush, and J. Zerubia. Prise en compte des discontinuités dans un algorithme de super-résolution. In *Proc. GRETSI*, Grenoble, France, September 1997.
- [21] F. Mangin, M. Berthod, and J. Zerubia. Un réseau coopératif multi-résolution pour le groupement de contours. In *Proc. GRETSI*, Juan les Pins, France, September 1993.
- [22] J. Zerubia and M. Berthod. Modélisation markovienne en vision par ordinateur. différentes techniques d'optimisation. In *Proc. Journées Champs de Markov, CNRS*, Paris, France, September 1992.
- [23] J. Zerubia and D. Geiger. Segmentation d'image et propagation de ligne. In *Proc. RFIA*, Lyon, France, November 1991.
- [24] J. Zerubia and F. Ployette. Détection de contours et lissage d'image par des algorithmes déterministes de relaxation. mise en oeuvre sur la machine à connexions CM2. In *Proc. GRETSI*, Juan les Pins, France, September 1991.
- [25] J. Zerubia, T. Mayoran, P. Mathieu, and J. Menez. Réduction du bruit par sommation synchrone, application à un codeur de type RELP. In *Proc. 16ème journées d'étude sur la parole*, October 1987.
- [26] J. Zerubia, M. Barlaud, J. Menez, and G. Alengrin. Amélioration de l'estimation des paramètres d'un modèle non-stationnaire. In *Proc. GRETSI*, Nice, France, June 1987.
- [27] J. Zerubia and J. Menez. Modèle autorégressif et signaux bruités, méthode de la corrélation étendue. In *Proc. 15ème journées d'étude sur la parole*, Aix en Provence, France, May 1986.

## Research reports and internal publications

- [1] P. Pankajakshan, L. Blanc-Féraud, Z. Kam, and J. Zerubia. Space non-invariant point-spread function and its estimation in fluorescence microscopy. Rapport de Recherche 7157, INRIA, 2009.
- [2] C. Benedek, X. Descombes, and J. Zerubia. Building extraction and change detection in multitemporal aerial and satellite images in a joint stochastic approach. Rapport de Recherche 7143, INRIA, 2009.
- [3] V. Krylov and J. Zerubia. High resolution sar-image classification. Rapport de Recherche 7108, INRIA, 2009.
- [4] M. Carlavan, P. Weiss, L. Blanc-Féraud, and J. Zerubia. Reconstruction d'images satellitaires à partir d'un échantillonnage irrégulier. Research Report 6732, INRIA, 2008.
- [5] V. Krylov, G. Moser, S. Serpico, and J. Zerubia. Modeling the statistics of high resolution SAR images. Research Report 6722, INRIA, November 2008.
- [6] P. Pankajakshan, L. Blanc-Féraud, B. Zhang, Z. Kam, J.C. Olivo-Marin, and J. Zerubia. Parametric blind deconvolution for confocal laser scanning microscopy (CLSM)-proof of concept. Research Report 6493, INRIA, April 2008.

- [7] O. Zammit, X. Descombes, and J. Zerubia. Support Vector Machines for burnt area discrimination. Research Report 6343, INRIA, November 2007.
- [8] S. Descamps, X. Descombes, A. Béchet, and J. Zerubia. Détection de flamants roses par processus ponctuels marqués pour l'estimation de la taille des populations. Research Report 6328, INRIA, October 2007.
- [9] M. Ortner, X. Descombes, and J. Zerubia. An adaptive simulated annealing cooling schedule for object detection in images. Research Report 6336, INRIA, October 2007.
- [10] C. Benedek, T. Szirányi, Z. Kato, and J. Zerubia. A three-layer MRF model for object motion detection in airborne images. Research Report 6208, INRIA, June 2007.
- [11] G.C.K. Abhayaratne, I.H. Jermyn, and J. Zerubia. Probabilistic models of adaptive mother wavelets for texture description. Research report, INRIA, France, December 2006.
- [12] G. Scarpa, M. Haindl, and J. Zerubia. Hierarchical finite-state modeling for texture segmentation with application to forest classification. Research Report 6066, INRIA, December 2006.
- [13] P. Horvath, I.H. Jermyn, Z. Kato, and J. Zerubia. A higher-order active contour model of a "gas of circles" and its application to tree crown extraction. Research Report 6026, INRIA, France, November 2006.
- [14] F. Lafarge, X. Descombes, J. Zerubia, and M. Pierrot-Deseilligny. A structural approach for 3D building reconstruction. Research Report 6048, INRIA, November 2006.
- [15] F. Lafarge, P. Trontin, X. Descombes, J. Zerubia, and M. Pierrot-Deseilligny. An automatic building extraction method : Application to the 3D-city modelling. Research Report 5925, INRIA, France, May 2006.
- [16] G. Perrin, X. Descombes, and J. Zerubia. A Non-Bayesian model for tree crown extraction using marked point processes. Research Report 5846, INRIA, France, February 2006.
- [17] M. Rochery, I.H. Jermyn, and J. Zerubia. Higher-order active contour energies for gap closure. Research Report 5717, INRIA, France, October 2005.
- [18] M. Ortner, X. Descombes, and J. Zerubia. A marked point process of rectangles and segments for automatic analysis of digital elevation models. Research Report 5712, INRIA, France, October 2005.
- [19] F. Lafarge, X. Descombes, J. Zerubia, and M. Pierrot-Deseilligny. A parametric model for automatic 3D building reconstruction from high resolution satellite images. Research Report 5687, INRIA, France, September 2005.
- [20] C. Lacoste, X. Descombes, J. Zerubia, and N. Baghdadi. Hydrographic network extraction from radar satellite images using a hierarchical model within a stochastic geometry framework. Research Report 5697, INRIA, France, September 2005.
- [21] C. Lacoste, X. Descombes, and J. Zerubia. A polyline process for unsupervised line network extraction in remote sensing. Research Report 5698, INRIA, France, September 2005.
- [22] G. Perrin, X. Descombes, and J. Zerubia. Optimization techniques for energy minimization problem in a marked point process application to forestry. Research Report 5704, INRIA, France, September 2005.
- [23] M. Rochery, I.H. Jermyn, and J. Zerubia. Higher order active contours. Research Report 5656, INRIA, France, August 2005.
- [24] G. Perrin, X. Descombes, and J. Zerubia. Point processes in forestry : an application to tree crown detection. Research Report 5544, INRIA, France, April 2005.
- [25] G. Pons Bernad, L. Blanc-Féraud, and J. Zerubia. Restauration d'images biologiques 3D en microscopie confocale par transformée en ondelettes complexes. Research Report 5507, INRIA, France, February 2005.
- [26] A. Achim, E.E. Kuruoglu, and J. Zerubia. SAR image filtering based on the heavy-tailed Rayleigh model. Research Report 5493, INRIA, France, February 2005.
- [27] F. Lafarge, X. Descombes, and J. Zerubia. Détection de feux de forêt par analyse statistique de la radiométrie d'images satellitaires. Research Report 5369, INRIA, France, December 2004.

- [28] F. Lafarge, X. Descombes, and J. Zerubia. Noyaux texturaux pour les problèmes de classification par SVM en télédétection. Research Report 5370, INRIA, France, December 2004.
- [29] G. Moser, J. Zerubia, and S.B. Serpico. SAR amplitude probability density function estimation based on a generalized Gaussian scattering model. Research Report 5153, INRIA, France, March 2004.
- [30] G. Moser, J. Zerubia, and S.B. Serpico. Dictionary-based stochastic expectation-maximization for SAR amplitude probability density function estimation. Research Report 5154, INRIA, France, March 2004.
- [31] R. Cossu, I.H. Jermyn, K. Brady, and J. Zerubia. Models of the unimodal and multimodal statistics of adaptive wavelet packet coefficients. Research Report 5122, INRIA, France, February 2004.
- [32] M. Rochery, I.H. Jermyn, and J. Zerubia. Contours actifs d'ordre supérieur appliqués à la détection de linéiques dans des images de télédétection. Research Report 5063, INRIA, France, December 2003.
- [33] G. Scarpa and J. Poggi, G. and Zerubia. A binary tree-structured MRF model for multispectral satellite image segmentation. Research Report 5062, INRIA, France, December 2003.
- [34] G. Perrin, X. Descombes, and J. Zerubia. Extraction de houppiers par processus objet. Research Report 5037, INRIA, France, December 2003.
- [35] K. Brady, I.H. Jermyn, and J. Zerubia. A probabilistic framework for adaptive texture description. Research Report 4920, INRIA, France, September 2003.
- [36] M. Ortner, X. Descombes, and J. Zerubia. Automatic 3D land register extraction from altimetric data in dense urban areas. Research Report 4919, INRIA, France, September 2003.
- [37] M. Ortner, X. Descombes, and J. Zerubia. Improved RJMCMC point process sampler for object detection by simulated annealing. Research Report 4900, INRIA, France, August 2003.
- [38] O. Viveros-Cancino, X. Descombes, and J. Zerubia. Analyse intra-urbaine à partir d'images satellitaires par une approche de fusion de données sur la ville de Mexico. Research Report 4578, INRIA, France, 2002.
- [39] M. Ortner and J. Descombes, X. and Zerubia. Building extraction from digital elevation model. Research Report 4517, INRIA, France, 2002.
- [40] C. Lacoste, X. Descombes, and J. Zerubia. A comparative study of point processes for line network extraction in remote sensing. Research Report 4516, INRIA, France, 2002.
- [41] G. Rellier, X. Descombes, F. Falzon, and J. Zerubia. Analyse de texture hyperspectrale par modélisation markovienne. Research Report 4479, INRIA, France, 2002.
- [42] S. Wilson and J. Zerubia. Segmentation of textured satellite and aerial images by Bayesian inference and Markov random fields. Research Report 4336, INRIA, France, 2001.
- [43] L. Garcin, X. Descombes, J. Zerubia, and H. Le Men. Building detection by Markov objet processes and a MCMC algorithm. Research Report 4206, INRIA, France, 2001.
- [44] G. Rellier, X. Descombes, F. Falzon, and J. Zerubia. La poursuite de projection pour la classification d'image hyperspectrale texturée. Research Report 4152, INRIA, France, 2001.
- [45] E. Kuruoglu and J. Zerubia. Modelling SAR images with a generalization of the Rayleigh distribution. Research Report 4121, INRIA, France, 2001.
- [46] X. Descombes, S. Drot, M. Imbert, H. Le Men, and J. Zerubia. Segmentation d'image haute résolution par processus Markov objet. Rapport sur le séminaire télédétection à très haute résolution spatiale et analyse d'image, Cemagref, Montpellier, France, 2001.
- [47] C. Samson, L. Blanc-Féraud, G. Aubert, and J. Zerubia. Classification d'images multibandes par modèles variationnels. Research Report 4010, INRIA, France, 2000.
- [48] O. Pony, X. Descombes, and J. Zerubia. Classification d'images satellitaires hyperspectrales en zone rurale et périurbaine. Research Report 4008, INRIA, France, 2000.
- [49] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. Etude de la restitution des paramètres instrumentaux en imagerie satellitaire. Research Report 3957, INRIA, France, 2000.
- [50] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. Adaptive parameter estimation for satellite image deconvolution. Research Report 3956, INRIA, France, 2000.

- [51] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. Satellite image deconvolution using complex wavelet packets. Research Report 3955, INRIA, France, 2000.
- [52] G. Rellier, X. Descombes, and J. Zerubia. Local registration and deformation of a road cartographic database on a Spot satellite image. Research Report 3939, INRIA, France, 2000.
- [53] R. Stoica, X. Descombes, and J. Zerubia. A Markov point process for road extraction in remote sensed images. Research Report 3923, INRIA, France, 2000.
- [54] A. Strandlie and J. Zerubia. A deterministic annealing PMHT algorithm with an application to particle tracking. Research Report 3711, INRIA, France, 1999.
- [55] C. Samson, L. Blanc-Féraud, G. Aubert, and J. Zerubia. Multiphase evolution and image classification. Research Report 3662, INRIA, France, 1999.
- [56] R. Stoica, J. Zerubia, and J. Francos. Indexing and retrieval in multimedia libraries through parametric texture modeling using the 2D Wold decomposition. Research Report 3594, INRIA, France, 1998.
- [57] C. Hivernat, X. Descombes, S. Randriamasy, and J. Zerubia. Mise en correspondance et recalage de graphes : application aux réseaux routiers extraits d'un couple carte/image. Research Report 3529, INRIA, France, 1998.
- [58] C. Samson, L. Blanc-Féraud, G. Aubert, and J. Zerubia. Image classification using a variational approach. Research Report 3523, INRIA, France, 1998.
- [59] A. Jalobeanu, L. Blanc-Féraud, and J. Zerubia. Estimation d'hyperparamètres pour la restauration d'images satellitaires par une méthode MCMCML. Research Report 3469, INRIA, France, 1998.
- [60] A. Lorette, X. Descombes, and J. Zerubia. Extraction des zones urbaines fondée sur une analyse de la texture par modélisation markovienne. Research Report 3423, INRIA, France, 1998.
- [61] N. Merlet and J. Zerubia. Integration of global information for roads detection in satellite images. Research Report 3239, INRIA, France, 1997.
- [62] R.D. Morris, X. Descombes, and J. Zerubia. Fully Bayesian image segmentation - an engineering perspective. Research Report 3017, INRIA, France, 1996.
- [63] R.D. Morris, X. Descombes, and J. Zerubia. An analysis of some models used in image segmentation. Research Report 3016, INRIA, France, 1996.
- [64] X. Descombes, R.D. Morris, J. Zerubia, and M. Berthod. Estimation of Markov random field prior parameters using Markov chain Monte Carlo maximum likelihood. Research Report 3015, INRIA, France, 1996.
- [65] X. Descombes, R.D. Morris, and J. Zerubia. Quelques améliorations à la segmentation d'images bayésienne. Research Report 2916, INRIA, France, 1996.
- [66] S. Urago, J. Zerubia, and M. Berthod. Modélisation markovienne pour le groupement de contours avec une coopération contours-régions. Research Report 2875, INRIA, France, 1996.
- [67] H. Shekarforoush, M. Berthod, and J. Zerubia. Subpixel image registration by estimating the polyphase decomposition of cross power spectrum. Research Report 2707, INRIA, France, 1995.
- [68] H. Shekarforoush, M. Berthod, and J. Zerubia. 3D super-resolution using generalized sampling expansion. Research Report 2706, INRIA, France, 1995.
- [69] H. Shekarforoush, M. Berthod, and J. Zerubia. Direct search generalized simplex algorithm for optimizing nonlinear functions. Research Report 2535, INRIA, France, 1995.
- [70] Z. Kato, J. Zerubia, and M. Berthod. Unsupervised parallel image classification using a hierarchical Markovian model. Research Report 2528, INRIA, France, 1995.
- [71] C. Graffigne, F. Heitz, F. Prêteux, M. Sigelle, and J. Zerubia. Modèles markoviens hiérarchiques pour l'analyse d'image. Rapport de synthèse, GdR TdSI 134 et DRED, France, 1994.
- [72] M. Berthod, H. Shekarforoush, M. Werman, and J. Zerubia. Reconstruction of high resolution 3D visual information. Research Report 2142, INRIA, France, 1993.
- [73] S. Urago, J. Zerubia, and M. Berthod. A Markovian model for contour grouping. Research Report 2122, INRIA, France, 1993.

- [74] Z. Kato, M. Berthod, and J. Zerubia. A hierarchical Markov random field model and multi temperature annealing for parallel image classification. Research Report 1938, INRIA, France, 1993.
- [75] N. Merlet and J. Zerubia. Classical mechanics and road detection in SPOT images. Research Report 1889, INRIA, France, 1993.
- [76] J. Zerubia. Parallelisation d'algorithmes de vision bas-niveau. Rapport AFIRST, journées franco-israéliennes, Jérusalem, Israël, 1993.
- [77] C. Graffigne, J. Zerubia, and B. Chalmond. Segmentation région : approches statistiques. Rapport de recherche sur la segmentation d'image, GdR 134 CNRS, France, 1992.
- [78] S. Urago, M. Berthod, and J. Zerubia. Restauration d'image de contours incomplets. Research Report 1688, INRIA, France, 1992.
- [79] Z. Kato, J. Zerubia, and M. Berthod. Image classification using Markov random fields with two new relaxation methods : deterministic pseudo-annealing and modified metropolis dynamics. Research Report 1606, INRIA, France, 1992.
- [80] F. Mangin, M. Berthod, and J. Zerubia. Local edge grouping by simple process iteration. Research Report 1559, INRIA, France, 1991.
- [81] J. Zerubia and C. Graffigne. Détection de contours et restauration d'image par des algorithmes déterministes de relaxation. Research report sur la segmentation d'image, GdR 134 CNRS, France, 1991.
- [82] J. Zerubia and D. Geiger. Image segmentation using 4 direction line-processes. Research Report 1338, INRIA, France, 1990.
- [83] J. Zerubia and R. Chellappa. Mean field annealing using compound GMRF for edge detection and image restoration. Research Report 1295, INRIA, France, 1990.
- [84] J. Zerubia and F. Ployette. Détection de contours et restauration d'image par des algorithmes déterministes de relaxation. mise en oeuvre sur la machine à connexions CM2. Research Report 1291, INRIA, France, 1990.
- [85] G. Alengrin, M. Barlaud, R. Charbonnier, P. Mathieu, J. Menez, M. Yacoubi, and J. Zerubia. Algorithmes d'analyse spectrale adaptative : application aux signaux tests GT6. Rapport, GRECO CNRS SARTA, France, 1986.