

Julien Marot

Maître de Conférences

Naissance : 22 décembre 1980,
Montpellier, France
Nationalité : Française

Institut Fresnel
DU de Saint-Jérôme
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Cursus

Situation actuelle

09/2009 - Présent
Maître de Conférences, section CNU 61
Lieu: Université d'Aix Marseille, Institut Fresnel

Expérience professionnelle

03/2009 - 08/2009
Chercheur à l'institut Fraunhofer IIS,
Financement : IIS
Lieu: Erlangen, Allemagne

03/2008 - 02/2009
Post-doctorat à l'institut Fraunhofer IIS
Financement : DGA
Lieu: Erlangen, Allemagne

Formation

12/2004 - 11/2007
Doctorat en traitement du signal et des images
Méthodes par sous-espaces et d'optimisation : application en traitement d'antenne, analyse d'image et traitement du signal tensoriel
Financement : Région-Entreprise
Lieu: Institut Fresnel, Marseille

09/2003 - 07/2004
DEA (Master 2 Recherche)
Optique, Images et Signal
Lieu: Univ. Aix Marseille 3

09/2002 – 08/2003
Diplôme d'ingénieur
3A Ingénieur
Lieu: Tampere University of Technology, Finlande

09/2000 – 08/2003
1A et 2A Ingénieur
Lieu: Ecole Nationale Supérieure de Physique de Marseille

Activités scientifiques

Publications **Productions scientifiques**
14 articles de revue RICL, 20 articles en CICL, 1 chapitre de livre

Encadrement doctoral

2015-2018 **Benoit Martin**, *Détection de visages pour la mesure d'audience*, financement Intuisense et ANRT.
2014-2017 **Abir Zidi**, *Multimodal imagery for surface inspection*, financement BFS (german Bayerische Forschungstiftung).
2011-2013 **Nabil Boughnim**, *Traitement du signal pour la reconnaissance de gestes et application a une interface homme machine sans contact*, financement Regional 'Provence Alpes côte d'Azur' et Intuisense.
2010-2011 **Haiping Jiang**, *Detection and characterisation of contours in images by subspace-based methods*, financement Chinois.

Diffusion des travaux

Responsabilités scientifiques exercées

Liste de publications

Revue internationale :

Issues des travaux de MCF:

[R14] N. Boughnim, **J. Marot**, C. Fossati and S. Bourennane, "Hand posture recognition using jointly optical flow and dimensionality reduction", EURASIP Journal on Advances in Signal Processing.2013, November 2013, 2013:167
doi: 10.1186/1687-6180-2013-167

[R13] H. Jiang, **J. Marot**, C. Fossati, and S. Bourennane, "Strongly concave star-shaped contour characterization by algebra tools", Elsevier Signal Processing, vol. 92, pp. 1567-1579, January 2012
doi:10.1016/j.sigpro.2011.10.002

[R12] H. Jiang, **J. Marot**, C. Fossati, and S. Bourennane, "Circular contour retrieval in real-world conditions by higher order statistics and an alternating-least squares algorithm", EURASIP Journal on Advances in Signal Processing 2011, **2011**:112 (23 November 2011)

[R11] S. Bourennane, C. Fossati, **J. Marot**, "Contour Estimation in Image Using Virtual Signal", optical engineering, Opt. Eng. 49(5), 057002 (May 11, 2010).
doi:10.1117/1.3421576

[R10] S. Bourennane, C. Fossati, and **J. Marot**, "Localization of narrow-band sources in unknown spatially correlated noise," EURASIP Journal on Advances in Signal Processing, vol. 2010, Article ID 732591, 11 pages, april 2010. doi:10.1155/2010/732591

[Editorial]

Editorial Board

S. Bourennane, **J. Marot**, C. Fossati, A. Bouridane, and K. Spinnler, "Special Issue : Multidimensional Signal Processing and Applications", Guest Editors: Salah Bourennane, Julien Marot, Caroline Fossati, Ahmed Bouridane, and Klaus Spinnler, The Scientific World Journal, Article ID 365126, Hindawi, 2014.

Issues des travaux de Post-Doctorat:

[R9] **J. Marot**, C. Fossati, and S. Bourennane, "About advances in tensor data denoising methods", EURASIP Journal on Advances in Signal Processing, Volume 2008, Article ID 235357, 12 pages.
doi:10.1155/2008/235357.

[R8] S. Bourennane, C. Fossati, and **J. Marot**, "About Noneigenvector Source Localization Methods," EURASIP Journal on Advances in Signal Processing, vol. 2008, Article ID 480835, 13 pages, 2008.
doi:10.1155/2008/480835.

Issues des travaux de thèse:

[R7] D. Muti, S. Bourennane and **J. Marot**, "Lower-Rank Tensor Approximation and Multiway Filtering", *SIAM Journal on Matrix Analysis and Applications (SIMAX)*, vol. 30, no. 3, pp. 1172-1204, september 25 2008. doi: 10.1137/060653263.

[R6] **J. Marot** and S. Bourennane, "Propagator method for an application to contour estimation", *Pattern recognition letters*, vol. 28, no. 12, pp. 1556-1562, sept. 2007. doi:10.1016/j.patrec.2007.03.013.

[R5] **J. Marot** and S. Bourennane, "Phase Distortion Estimation by DIRECT and spline interpolation algorithms", *IEEE Signal Processing Letters*, Vol. 14, no. 7, pp. 461-464, July 2007. doi: 10.1109/LSP.2006.891317.

[R4] **J. Marot** and S. Bourennane, "Array processing and fast Optimization Algorithms for Distorted Circular Contour Retrieval", *EURASIP Journal on Advances in Signal Processing*, Volume 2007, Article ID 57354, 13 pages. doi:10.1155/2007/57354.

[R3] **J. Marot** and S. Bourennane, "Subspace-Based and DIRECT Algorithms for Distorted Circular Contour Estimation", *IEEE Trans. on Image Processing*, vol. 16, no. 9, pp. 2369-2378, sept. 2007. doi: 10.1109/TIP.2007.903907.

[R2] S. Bourennane and **J. Marot**, "Contour estimation by array processing methods", *EURASIP Journal on Applied Signal Processing*, Volume 2006 (2006), Article ID 95634, 15 pages. doi:10.1155/ASP/2006/95634.

[R1] S. Bourennane and **J. Marot**, "Estimation of straight line offsets by a high-resolution method", *IEE Proceedings Vision Image and Signal Processing*, vol. 153, no. 2, pp. 224-229, April 6, 2006. doi: 10.1049/ip-vis:20050149.

Conférences internationales avec comité de lecture :

Issues des travaux de MCF:

[C20] **J. Marot**, and Salah Bourennane, "Improvement of a Wavelet-Tensor Denoising Algorithm by Automatic Rank Estimation" In: Battiato S et al. *Advanced Concepts for Intelligent Vision Systems: 16th Int. Conf. ACIVS 2015, Catania, Italy, October 26-29, 2015. Proceedings*. Cham: Springer International Publishing; 2015. p. 779–790. doi: 10.1007/978-3-319-25903-1_67

[C19] Zidi A., **Marot J.**, Spinnler K. and Bourennane S. (2015), "Unmixing of Hyperspectral Images with Pure Prior Spectral Pixels", In *Proceedings of the 10th International Conference on Computer Vision Theory and Applications*, ISBN 978-989-758-089-5, pages 153-158. doi: 10.5220/0005311101530158

[C18] A. Zidi, J. Juan, **J. Marot**, and S. Bourennane, "Nonnegative matrix factorization with spatial prior and reference spectra application to remote hyperspectral image understanding", *Visual*

Information Processing (EUVIP), 2014 5th European Workshop on , (EUVIP'14), pp. 1-6, December 10-12 2014. DOI: 10.1109/EUVIP.2014.7018397

[C17] **J. Marot**, S. Bourennane, "Recent advances on tensor models and their relevance for multidimensional data processing," Signals, Systems and Computers, 2014 48th Asilomar Conference on , vol., no., pp.586,590, 2-5 Nov. 2014
doi: 10.1109/ACSSC.2014.7094513 (*Invitation*)

[C16] **J. Marot** and S. Bourennane, « Particle Swarm Optimization For Blurred Contour Retrieval », EUSIPCO'14, pp. 810-814, Lisbon, September 2-5 2014. INSPEC : 14775521

[C15] T. Lin, **J. Marot**, and S. Bourennane, “ Small Target Detection Improvement in Hyperspectral Image ”, ACIVS'13, Lecture Notes in Computer Science, vol. 8192, pp. 460-469, October 2013. doi: 10.1007/978-3-319-02895-8_41

[C14] **J. Marot** and Salah Bourennane, “Leaf marker spectra identification by hyperspectral image acquisition and vertex component analysis”, EUVIP'13, pp. 190-195, June 2013. ISBN : 978-82-93269-13-7

[C13] Nabil Boughnim, **J. Marot**, Caroline Fossati, Salah Bourennane, and Frédéric Guérault, « Fast and improved hand classification using dimensionality reduction and test set reduction », ICASSP'13, pp. 1971-1975, May 2013.
doi : 10.1109/ICASSP.2013.6637998

[C12] Nabil Boughnim, **J. Marot**, Caroline Fossati, and Salah Bourennane, « Hand Posture Classification by Means of a New Contour Signature», ACIVS'12, pp. 384-394, September 2012.
doi: 10.1007/978-3-642-33140-4_34.

[C11] Haiping Jiang, **J. Marot**, Caroline Fossati, and Salah Bourennane, « Fuzzy triangle contour characterization by subspace based methods of array processing », SAM'10, pp. 165–168, October 2010.
doi : 10.1109/SAM.2010.5606727

[C9] Haiping Jiang, **J. Marot**, Caroline Fossati, and Salah Bourennane, « Fuzzy contour characterization by subspace based methods of array processing and DIRECT method », EUSIPCO'10, pp. 1344 – 1348, Aalborg, August 23-27 2010.

[C8] **J. Marot**, Caroline Fossati, and Salah Bourennane, « Fast Subspace Based Tensor Data Filtering », ICIP conference 2009, pp. 3869-3872, novembre 2009.
doi : 10.1109/ICIP.2009.5414048.

Issues des travaux de Post-Doctorat:

[C10] **J. Marot**, Salah Bourennane, and Klaus Spinnler, «Metal Surface Control System Based on Successive Contour Estimation», ICIP'10, pp. 2293-2296, September 2010.
doi : 10.1109/ICIP.2010.5654115

[C7] **J. Marot**, Y. Caulier, A. Kuleschov, K. Spinnler, and S. Bourennane, "Contour Detection for Industrial Image Processing by Means of Level Set Methods", Proceedings of ACIVS conf., October 2008. doi:10.1007/978-3-540-88458-3 59

[C6] **J. Marot** and S. Bourennane, "Array processing for intersecting circle retrieval", EUSIPCO'08, 5 pages, August 08.

[C5] **J. Marot**, C. Fossati, and S. Bourennane, "Fast subspace-based source localization methods", IEEE SAM' 08 Sensor Array and Multichannel Signal Processing Workshop, pp. 203-206, July 2008. doi: 10.1109/SAM.2008.4606855

[C4] **J. Marot** and S. Bourennane, "Fast tensor signal filtering using fixed point algorithm", IEEE ICASSP'08, pp. 921-924, Apr. 2008. doi: 10.1109/ICASSP.2008.4517761.

Issues des travaux de thèse:

[C3] **J. Marot**, S. Bourennane, and Mouloud Adel, "Array processing approach for object segmentation in images", IEEE ICASSP'07, Vol. 1, pp. 621-624, Apr. 2007. doi: 10.1109/ICASSP.2007.365984

[C2] S. Bourennane and **J. Marot**, "Optimization and interpolation for distorted contour estimation", IEEE ICASSP'06, Vol. 2, pp. 717-20, Apr. 2006. doi: 10.1109/ICASSP.2006.1660443

[C1] S. Bourennane and **J. Marot**, "Line parameters estimation by array processing methods", IEEE ICASSP'05, Vol. 4, pp. iv/965- iv/ 968, Mar. 2005.

doi: 10.1109/ICASSP.2005.1416171

Chapitre de livre

[B1] **J. Marot**, Caroline Fossati, Yannick Caulier, "About array processing methods for image segmentation", "Recent Advances in Signal Processing", edited by Ashraf A. Zaher, INTECH, ISBN 978-953-307-002-5. Pp 15-36, november 2009.

Activités d'enseignement

27 H TD TP
30 H CM TD TP

Licence 2 SPI
Automatique continue
Informatique industrielle

15 H TD
27 H TD TP
35 H CM TD TP

Licence 3 SPI
Remise à niveau assembleur
Etude des systèmes échantillonnés
Automatismes

18 H TP

Licence 3 MEP
Régulation industrielle

20 H TP
20 H TP
10 H TP

Master 1 Image et systèmes
CAO, introduction à Matlab
Régulation industrielle
Systèmes non linéaires

12 H TP

Doctorat Erasmus Mundus
Image and data analysis

Divers

Mobilité

Résidence en **Andorre**, pays hispanophone pendant 15 ans,
Résidence en **Finlande** pendant un an (3A Ingénieur, scolarité en anglais et finlandais)
Résidence en **Allemagne** pendant 18 mois (employé comme docteur ingénieur, participation active à des réunions, rédaction de documents scientifiques en allemand).

Compétences Linguistiques

Anglais, espagnol, allemand : lu, écrit, parlé, rédaction de documents scientifiques.
Finnois, polonais : connaissances de base

Compétences informatiques

Maîtrise de Matlab, C, C++, Latek, Word, Assembleur, Linux, Raspbian

Autres

Course à pied (marathons, 100 kms de Millau), triathlon (ironman d'Embrun), brevet de secourisme.