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Arzew, Algeria

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## **Application Letter for the Vice-Chair Position IEEE Algeria Section**

Dear Colleagues

Following the call for candidates for the renewal of the IEEE Algeria Section committee, I'm writing to express my keen interest to apply for the Vice-Chair position.

I bring to your knowledge that I'm a permanent researcher (research director) at the Centre des Techniques Spatiales (Arzew, Algeria)/Agence Spatiale Algérienne, where I hold the position of head of the Earth Observation research department. Furthermore, I'm also an associate researcher at the Institut de Recherche en Astrophysique et Planétologie (Toulouse, France) and at the Université des Sciences et de la Technologie d'Oran – Mohamed Boudiaf (Oran, Algeria). Moreover, I'm an IEEE Senior Member and the Vice-Chair of the IEEE Geoscience and Remote Sensing Society (GRSS) Algeria Chapter.

To keep it simple and concise, I'm applying for the Vice-Chair position of the IEEE Algeria Section to share and provide the Algerian IEEE members and concerned scientific communities my experience and contacts in order to promote memberships, to enhance of bounding among Algerian (and foreign) IEEE members, and to diversify and expand local (and regional through other IEEE Sections of neighboring countries of Algeria) activities of the Algerian IEEE community (by capitalizing on my recent and current activities in the IEEE GRSS Algeria Chapter). This will pass, and this is my vision and my main planned activities, by the regular organization of events (face-to-face or online: one of the benefits of the current health situation) allowing to regroup and establish contacts with the Algerian (and foreign) elite and active community groups (academics, researchers, engineers, students, and decision-makers) to set up and encourage the creation of other Algerian IEEE Chapters and Branches, and also to set up, as ultimate objectives, common projects of different interests.

Definitely, I'll work and I'll spare no effort, with great pleasure, with all Algerian IEEE members and with the other elected members of the IEEE Algeria Section committee for the benefit of all.

Remaining at your entire disposal, and hoping that my candidacy will be accepted, please receive dear colleagues my deep respects and best regards.



## Biography



**Moussa Sofiane Karoui** (M'13–SM'20) was born in Oran, Algérie, in 1979. In 2000, he graduated in Applied Mathematics from the Université Es-Sénia, Oran, Algérie. In 2007, he received his M.Sc. degree in Signal and Image Processing from the Université Paul Sabatier Toulouse 3, Toulouse, France. In 2008, he received his Magister's degree in Signal and Image Processing from the Université des Sciences et de la Technologie d'Oran Mohamed Boudiaf, Algérie. In 2012, he received his Ph.D. degree in Signal and Image Processing from the Université Paul Sabatier Toulouse 3, Toulouse, France, co-supervised with the Université des Sciences et de la Technologie d'Oran Mohamed Boudiaf, Algérie. Since 2001, he is a Senior Researcher at the Agence Spatiale Algérienne, Centre des Techniques Spatiales, Arzew, Algérie. His current major activities include linear/nonlinear spectral/spatial unmixing techniques in remote sensing imagery, statistical and especially, BSS methods with applications to remote sensing imagery.



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## Moussa Sofiane Karoui, PhD – Research Director

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### Education

- Sep 2008 – Dec 2012* **Université des Sciences et de la Technologie d'Oran Mohamed Boudiaf**  
PhD, Signal and Image Processing  
Oran, Algeria
- Sep 2008 – Dec 2012* **Paul Sabatier University - Toulouse III**  
PhD, Signal and Image Processing  
Toulouse, France
- Sep 2006 – Jun 2007* **Paul Sabatier University - Toulouse III**  
Master of Research, Signal and Image Processing  
Toulouse, France
- Sep 2005 – Jun 2008* **Université des Sciences et de la Technologie d'Oran Mohamed Boudiaf**  
Magister, Signal and Image Processing  
Oran, Algeria
- Sep 1996 – Jun 2000* **University of Oran**  
Diplôme d'Etudes Supérieures (DES), Applied Mathematics  
Oran, Algeria

### Thesis

Moussa Sofiane Karoui: *Méthodes de séparation aveugle de sources et application à la télédétection spatiale.*  
12/2012, Degree: PhD, Supervisor: Yannick Deville, Shahram Hosseini, and Abdelaziz Ouamri

## Research Experience

- Oct 2000 – present* **Permanent Researcher**  
Agence Spatiale Algérienne, Centre des Techniques Spatiales, Département  
Observation de la Terre  
Arzew, Algeria
- Jan 2013 – present* **Associate Researcher**  
Université des Sciences et de la Technologie d'Oran Mohamed Boudiaf,  
Département d'Électronique, Laboratoire Signaux et Images  
Oran, Algeria
- Jan 2013 – present* **Associate Researcher**  
Institut de Recherche en Astrophysique et Planétologie, Groupe Signal et  
Images en Sciences de l'Univers  
Toulouse, France

## Main Projects (2016 – present)

- Jan 2019 – present* **Project manager (CTS/ASAL)**  
Contribution de la télédétection spatiale dans la prospection minière
- Jan 2019 – present* **Project manager (CTS/ASAL)**  
Développement de méthodes avancées pour le traitement des images de hautes  
résolutions spectrale, spatiale et temporelle de télédétection spatiale et  
applications
- Jan 2019 – present* **Project member (CTS/ASAL)**  
Etude du potentiel en énergies renouvelables par l'utilisation de la télédétection  
spatiale et de la modélisation théorique
- Jan 2019 – present* **Project member (CTS/ASAL)**  
Techniques avancées d'apprentissage profond/machine pour l'analyse des  
données de télédétection spatiale
- Jan 2019 – present* **Project member (CTS/ASAL)**  
Caractérisation des composantes d'un milieu urbain par images d'observation de  
la Terre et techniques avancées d'apprentissage machine
- Jan 2016 – Dec 2018* **Project manager (CTS/ASAL)**  
Méthodes avancées pour le traitement des images optiques de haute résolution  
spectrale/spatiale de télédétection et applications
- Jan 2016 – Dec 2018* **Project member (CTS/ASAL)**  
Analyse Orientée-Objet d'images de Télédétection et Applications
- Jan 2016 – Dec 2018* **Project member (CTS/ASAL)**  
Systèmes multi-classifieurs pour la classification d'images satellitaires

## Responsibilities

Sept 2016 – present **Head of the Earth Observation research Department**  
Agence Spatiale Algérienne, Centre des Techniques Spatiales  
Arzew, Algeria

Sept 2015 – Sept 2016 **Head of the Signal and Image Processing for Remote Sensing research Team**  
Agence Spatiale Algérienne, Centre des Techniques Spatiales, Département  
Observation de la Terre  
Arzew, Algeria

Languages Arabic, English, French

Scientific Memberships IEEE Senior Member  
IEEE Geoscience and Remote Sensing Society (GRSS) Member  
IEEE GRSS Algeria Chapter Vice-Chair

## Book Chapters

**Moussa Sofiane Karoui**, Khelifa Djerriri, Issam Boukerch: *Projected-gradient method for joint nonnegative matrix factorization to pansharpen multispectral remote sensing data*. Horizons in Earth Science Research, Vol. 15, 01/2017: chapter 5: pages 53-74; NOVA Science Publishers, Hauppauge, NY, USA, ISBN: 978-1-63485-696-6

**Moussa Sofiane Karoui**, Yannick Deville, Shahram Hosseini, Abdelaziz Ouamri: *Blind Unmixing of Hyperspectral Data With Some Pure Pixels: Spatial Variance-based Methods Exploiting Sparsity and Non-negativity Properties*. Signal Processing: New Research, Edited by Ganesh R. Naik, 01/2013: chapter 8: pages 161-182; Nova Science., ISBN: 978-1-62808-157-2

## Journal Publications

Fatima Zohra Benhalouche, Yannick Deville, **Moussa Sofiane Karoui**, Abdelaziz Ouamri: *Hyperspectral Unmixing Based on Constrained Bilinear or Linear-Quadratic Matrix Factorization*. Remote Sensing 2021; 13(11):2132, DOI: 10.3390/rs13112132

Salah Eddine Brezini, **Moussa Sofiane Karoui**, Fatima Zohra Benhalouche, Yannick Deville, Abdelaziz Ouamri: *Hypersharpener by an NMF-Unmixing-Based Method Addressing Spectral Variability*. IEEE Geoscience and Remote Sensing Letters 2021, DOI: 10.1109/LGRS.2021.3072405

Djaouad Benachir, Yannick Deville, Shahram Hosseini, **Moussa Sofiane Karoui**: *Blind Unmixing of Hyperspectral Remote Sensing Data: A New Geometrical Method Based on a Two-Source Sparsity Constraint*. Remote Sensing 2020; 12(19): 3198, DOI: 10.3390/rs12193198

Salah A. G. Mohammed, Lila Meddeber, Tariq Zouagui, **Moussa Sofiane Karoui**: *Spectral unmixing using minimum volume constrained Kullback–Leibler divergence*. Journal of Applied Remote Sensing 05/2020; 14(2): 024511, DOI: 10.1117/1.JRS.14.024511

**Moussa Sofiane Karoui**, Fatima Zohra Benhalouche, Yannick Deville, Khelifa Djerriri, Xavier Briottet, Thomas Houet, Arnaud Le Bris, Christiane Weber: *Partial Linear NMF-Based Unmixing Methods for Detection and Area Estimation of Photovoltaic Panels in Urban Hyperspectral Remote Sensing Data*. Remote Sensing 09/2019; 11(18):2164, DOI: 10.3390/rs11182164

**Moussa Sofiane Karoui**, Boularbah Souissi, Abdelhamid Daamouche: *IEEE GRSS Algeria Chapter Activities and Perspectives*. 06/2019; 7(2):174-177, DOI: 10.1109/MGRS.2019.2911611

Sarra Ikram Benabadji, **Moussa Sofiane Karoui**, Khelifa Djerriri, Issam Boukerch, Nezha Farhi, Mohammed Amine Bouhlala: *Unsupervised hyperspectral band selection by combination of unmixing and sequential clustering techniques*. European Journal of Remote Sensing 12/2018; 52(1):30-39, DOI: 10.1080/22797254.2018.1549511

Fatima Zohra Benhalouche, **Moussa Sofiane Karoui**, Yannick Deville, Abdelaziz Ouamri: *Hyperspectral and multispectral data fusion based on linear-quadratic nonnegative matrix factorization*. Journal of Applied Remote Sensing 05/2017; 11(2):025008, DOI: 10.1117/1.JRS.11.025008

**Moussa Sofiane Karoui**, Yannick Deville, Fatima Zohra Benhalouche, Issam Boukerch: *Hypersharpener by Joint-Criterion Nonnegative Matrix Factorization*. IEEE Transactions on Geoscience and Remote Sensing 12/2016; 50(3):1660-1670, DOI: 10.1109/TGRS.2016.2628889

**Moussa Sofiane Karoui**, Khelifa Djerriri, Issam Boukerch: *Pansharpening multispectral remote sensing data by multiplicative joint nonnegative matrix factorization*. International Journal of Remote Sensing 02/2016; 37(4):805-818, DOI: 10.1080/01431161.2015.1137650

**Moussa Sofiane Karoui**, Yannick Deville, Shahram Hosseini, Abdelaziz Ouamri: *Blind spatial unmixing of multispectral images: New methods combining sparse component analysis, clustering and non-negativity constraints*. Pattern Recognition 12/2012; 45(12):4263-4278, DOI: 10.1016/j.patcog.2012.05.008

## **Main Conference Papers (2016 – 2021)**

Salah Eddine Brezini, Yannick Deville, **Moussa Sofiane Karoui**, Fatima Zohra Benhalouche, Abdelaziz Ouamri: *A Penalization-Based NMF Approach for Hyperspectral Unmixing Addressing Spectral Variability with an Additively-Tuned Mixing Model*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2021, Online

Fatima Zohra Benhalouche, Oussama Benabbou, Lahsen Wahib Kebir, Ahmed Bennia, **Moussa Sofiane Karoui**, Yannick Deville: *An Informed NMF-Based Unmixing Approach for Mineral Detection and Mapping in the Algerian Central HOGGAR Using PRISMA Remote Sensing Hyperspectral Data*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2021, Online

Fatima Zohra Benhalouche, **Moussa Sofiane Karoui**, Yannick Deville: *Gradient-Based NMF Methods for Hyperspectral Unmixing Addressing Spectral Variability with a Multiplicative-Tuning Linear Mixing Model*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2021, Online

- Moussa Sofiane Karoui**, Fatima Zohra Benhalouche, Salah Eddine Brezini, Yannick Deville, Yasmine Kheira Benkouider: *Hypersharpener by a Multiplicative Joint-Criterion NMF Method Addressing Spectral Variability*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2021, Online
- Achraf Djerida, Khelifa Djerriri, **Moussa Sofiane Karoui**, Mohammed El Amin Larabi: *A new public Alsat-2B dataset for single-image super-resolution*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2021, Online
- Oualid Yahia, **Moussa Sofiane Karoui**, Raffaella Guida: *A New Fully Constrained Least Squares-Based Fusion Approach of Optical, Thermal, and SAR Remote Sensing Data for Soil Moisture Content Estimation*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2021, Online
- Meziane Iftene, Mohammed El Amin Larabi, **Moussa Sofiane Karoui**: *End-to-End Change Detection in Satellite Remote Sensing Imagery*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2021, Online
- Khadidja Bakhti, Mohammed El Amin Larabi, Souleyman Chaib, Khelifa Djerriri, **Moussa Sofiane Karoui**, Said Boumaraf: *BI-Directional LSTM Model for Classification of Vegetation from Satellite Time Series*. IEEE Mediterranean and Middle-East Geoscience and Remote Sensing Symposium, IEEE M2GARSS 2020, Tunis, Tunisia; 03/2020, DOI:10.1109/M2GARSS47143.2020.9105156
- Moussa Sofiane Karoui**, Fatima Zohra Benhalouche, Yannick Deville, Khelifa Djerriri: *A Linear NMF-Unmixing-Based Approach Addressing Spectral Variability for Shadow Compensation in Hyperspectral Remote Sensing Data*. IEEE Mediterranean and Middle-East Geoscience and Remote Sensing Symposium, IEEE M2GARSS 2020, Tunis, Tunisia; 03/2020, DOI:10.1109/M2GARSS47143.2020.9105294
- Mohammed El Amin Larabi, **Moussa Sofiane Karoui**, Souleyman Chaib, Khadidja Bakhti, Mohammed Ilyas Tchenar: *Multibranch CNN-Based Pansharpening with Skip Connection*. IEEE Mediterranean and Middle-East Geoscience and Remote Sensing Symposium, IEEE M2GARSS 2020, Tunis, Tunisia; 03/2020, DOI:10.1109/M2GARSS47143.2020.9105231
- Yasmine Kheira Benkouider, **Moussa Sofiane Karoui**: *Low Resolutions Linear Unmixing-NMF-Based Change Detection Approaches for Multiresolution Remote Sensing Data*. IEEE Mediterranean and Middle-East Geoscience and Remote Sensing Symposium, IEEE M2GARSS 2020, Tunis, Tunisia; 03/2020, DOI:10.1109/M2GARSS47143.2020.9105212
- Fatima Zohra Benhalouche, Oussama Benabbou, **Moussa Sofiane Karoui**, Lahsen Wahib Kebir, Yannick Deville: *Detecting and Mapping Kaolinite in the Algerian Central Hoggar with a Partial Linear NMF-Based Unmixing Method*. IEEE Mediterranean and Middle-East Geoscience and Remote Sensing Symposium, IEEE M2GARSS 2020, Tunis, Tunisia; 03/2020, DOI:10.1109/M2GARSS47143.2020.9105308
- Salah Eddine Brezini, **Moussa Sofiane Karoui**, Fatima Zohra Benhalouche, Yannick Deville, Abdelaziz Ouamri: *An NMF-Based Method for Hyperspectral Unmixing Using a Structured Additively-Tuned Linear Mixing Model to Address Spectral Variability*. IEEE Mediterranean and Middle-East Geoscience and Remote Sensing Symposium, IEEE M2GARSS 2020, Tunis, Tunisia; 03/2020, DOI:10.1109/M2GARSS47143.2020.9105265

- Walid Rabehi, Nadjla Bentekhici, Mohammed Amine Bouhlala, Farah Benharrats, Ahmed Zegrar, Hamida Samiha Rahli, **Moussa Sofiane Karoui**, Fethi Benhamouda: *Monitoring And Estimation of The Sustainable Development Goal -Fifteen- By Remote Sensing Tools, Assessment of Change in Land Cover (Sub-Indicator 15.3.1), Case of Algeria*. IEEE Mediterranean and Middle-East Geoscience and Remote Sensing Symposium, IEEE M2GARSS 2020, Tunis, Tunisia; 03/2020, DOI:10.1109/M2GARSS47143.2020.9105157
- Moussa Sofiane Karoui**, Khelifa Djerriri, Issam Boukerch: *Unsupervised Hyperspectral Band Selection by Sequentially Clustering a Mahalanobis-Based Dissimilarity of Spectrally Variable Endmembers*. IEEE Mediterranean and Middle-East Geoscience and Remote Sensing Symposium, IEEE M2GARSS 2020, Tunis, Tunisia; 03/2020, DOI:10.1109/M2GARSS47143.2020.9105250
- Zoubida Mahi, **Moussa Sofiane Karoui**: *A Comparative Study of Star Detection Methods for a Satellite-Onboard Star Tracker*. IEEE International Conference on Advanced Electrical Engineering, IEEE ICAEE 2019, Algiers, Algeria; 11/2019, DOI:10.1109/ICAEE47123.2019.9015160
- Salah Eddine Brezini, **Moussa Sofiane Karoui**, Fatima Zohra Benhalouche, Yannick Deville, Abdelaziz Ouamri: *A Pixel-by-Pixel NMF-Based Method for Hyperspectral Unmixing Using A New Linear Mixing Model to Address Additively-Tuned Spectral Variability*. SPIE Remote Sensing, Strasbourg, France; 09/2019, DOI:10.1117/12.2533159
- Yasmine Kheira Benkouider, **Moussa Sofiane Karoui**: *An Unmixing-Based Change Detection Approach for Multiresolution Remote Sensing Images*. 27<sup>th</sup> European Signal Processing Conference, EUSIPCO 2019, Coruña, Spain; 09/2019, DOI:10.23919/EUSIPCO.2019.8903165
- Fatima Zohra Benhalouche, **Moussa Sofiane Karoui**, Yannick Deville: *An NMF-Based Approach for Hyperspectral Unmixing Using a New Multiplicative-tuning Linear Mixing Model to Address Spectral Variability*. 27<sup>th</sup> European Signal Processing Conference, EUSIPCO 2019, Coruña, Spain; 09/2019, DOI:10.23919/EUSIPCO.2019.8902707
- Moussa Sofiane Karoui**, Fatima Zohra Benhalouche, Issam Boukerch: *Gradient-Based Joint-Variables Nonnegative Matrix Factorization for Multi-Sharping Hyperspectral Remote Sensing Data*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2019, Yokohama, Japan; 08/2019, DOI:10.1109/IGARSS.2019.8899246
- Chaib Souleyman, Mohammed El Amin Larabi, Yanfeng Gu, Khadidja Bakhti, **Moussa Sofiane Karoui**: *Very High Resolution Image Scene Classification with Capsule Network*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2019, Yokohama, Japan; 08/2019, DOI:10.1109/IGARSS.2019.8898104
- Khelifa Djerriri, **Moussa Sofiane Karoui**, Reda Adjoudj: *Extraction of a Specific Land-Cover Class from Very High Spatial Resolution Imagery Using Positive and Unlabeled Learning with Convolutional Neural Networks*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2019, Yokohama, Japan; 08/2019, DOI:10.1109/IGARSS.2019.8898974
- Khelifa Djerriri, Abdelmounaime Safia, Reda Adjoudj, **Moussa Sofiane Karoui**: *Improving Hyperspectral Image Classification by Combining Spectral and Multiband Compact Texture Features*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2019, Yokohama, Japan; 07/2019, DOI:10.1109/IGARSS.2019.8900211



- Yannick Deville, Salah Eddine Brezini, Fatima Zohra Benhalouche, **Moussa Sofiane Karoui**, Mireille Guillaume, Xavier Lenot, Bruno Lafrance, Malik Chami, Sylvain Jay, Audrey Minghelli-Roman, Xavier Briottet, Veronique Serfaty: *Hyperspectral Oceanic Remote Sensing With Adjacency Effects: From Spectral-Variability-Based Modeling To Performance of Associated Blind Unmixing Methods*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2019, Yokohama, Japan; 07/2019, DOI:10.1109/IGARSS.2019.8898430
- Mohammed El Amin Larabi, Chaib Souleyman, Khadidja Bakhti, **Moussa Sofiane Karoui**: *Transfer Learning for Changes Detection in Optical Remote Sensing Imagery*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2019, Yokohama, Japan; 07/2019, DOI:10.1109/IGARSS.2019.8900296
- Khadidja Bakhti, Khelifa Djerriri, Mohammed El Amin Larabi, Souleyman Chaib, **Moussa Sofiane Karoui**: *Improvement of Multi-Temporal Vegetation Modeling Using Hybrid Deep Neural Networks of Multispectral Remote Sensing Images*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2019, Yokohama, Japan; 07/2019, DOI:10.1109/IGARSS40859.2019.8948702
- Fatima Zohra Benhalouche, **Moussa Sofiane Karoui**, Yannick Deville: *Hyperspectral Unmixing Based on a Novel Pixel-by-Pixel NMF Algorithm Using a New Linear Mixing Model to Address Multiplicatively Adjusted Spectral Variability*. 7<sup>ème</sup> Colloque Scientifique du Groupe Hyperspectral de la Société Française de Photogrammétrie et de Télédétection, SFPT-GH 2019, Toulouse, France; 07/2019
- Yannick Deville, Salah-Eddine Brezini, Fatima Zohra Benhalouche, **Moussa Sofiane Karoui**, Mireille Guillaume, Xavier Lenot, Bruno Lafrance, Malik Chami, Sylvain Jay, Audrey Minghelli, Xavier Briottet, Véronique Serfaty: *Blind Unmixing Based on Spectral-Variability Modeling for Hyperspectral Oceanic Remote Sensing Data with Adjacency Effects*. 7<sup>ème</sup> Colloque Scientifique du Groupe Hyperspectral de la Société Française de Photogrammétrie et de Télédétection, SFPT-GH 2019, Toulouse, France; 07/2019
- Meziane Iftene, Mohammed El Amin Arabi, **Moussa Sofiane Karoui**: *Transferring Super Resolution Convolutional Neural Network for Remote Sensing Data Sharpening*. 9<sup>th</sup> IEEE Workshop on Hyperstectral Image and Signal Processing: Evolution in Remote Sensing, IEEE WHISPERS 2018, Amsterdam, The Netherlands; 09/2018, DOI:10.1109/WHISPERS.2018.8747223
- Yasmine Kheira Benkouider, Fatima Zohra Benhalouche, **Moussa Sofiane Karoui**, Yannick Deville, Shahram Hosseini: *Bilinear Matrix Factorization using a Gradient Method for Unmixing Hyperspectral Images Combined with Multispectral Data*. 9<sup>th</sup> IEEE Workshop on Hyperstectral Image and Signal Processing: Evolution in Remote Sensing, IEEE WHISPERS 2018, Amsterdam, The Netherlands; 09/2018, DOI:10.1109/WHISPERS.2018.8747126
- Fatima Zohra Benhalouche, **Moussa Sofiane Karoui**, Yannick Deville: *Linear-Quadratic NMF-Based Urban Hyperspectral Data Unmixing With Some Known Endmembers*. 9<sup>th</sup> IEEE Workshop on Hyperstectral Image and Signal Processing: Evolution in Remote Sensing, IEEE WHISPERS 2018, Amsterdam, The Netherlands; 09/2018, DOI:10.1109/WHISPERS.2018.8747241
- Dalila Attaf, Khelifa Djerriri, Rabia Sarah Cheriguene, **Moussa Sofiane Karoui**: *One-Dimensional Convolution Neural Networks for Object-Based Feature Selection*. SPIE Remote Sensing, Berlin, Germany; 09/2018, DOI:10.1117/12.2325640

- Mohammed El Amin Arabi, **Moussa Sofiane Karoui**, Khelifa Djerriri: *Optical Remote Sensing Change Detection through Deep Siamese Network*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2018, Valencia, Spain; 07/2018, DOI:10.1109/IGARSS.2018.8518178
- Moussa Sofiane Karoui**, Khelifa Djerriri: *A New Unmixing-Based Approach for Shadow Correction of Hyperspectral Remote Sensing Data*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2018, Valencia, Spain; 07/2018, DOI:10.1109/IGARSS.2018.8517483
- Khelifa Djerriri, Abdelmounaime Safia, **Moussa Sofiane Karoui**, Reda Adjoudj: *Enhancing the Classification of Remote Sensing Data Using Multiband Compact Texture Unit Descriptor and Deep Convolutional Neural Network*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2018, Valencia, Spain; 07/2018, DOI:10.1109/IGARSS.2018.8518501
- Issam Boukerch, Nezha Farhi, **Moussa Sofiane Karoui**, Khelifa Djerriri, Mahmoudi Redouane: *A Dense Vector Matching Approach for Band to Band Registration of Alsat-2 Images*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2018, Valencia, Spain; 07/2018, DOI:10.1109/IGARSS.2018.8518986
- Khelifa Djerriri, Ghabi Mohamed, **Moussa Sofiane Karoui**, Reda Adjoudj: *Palm Trees Counting in Remote Sensing Imagery Using Regression Convolutional Neural Network*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2018, Valencia, Spain; 07/2018, DOI:10.1109/IGARSS.2018.8519188
- Moussa Sofiane Karoui**, Fatima Zohra Benhalouche, Yannick Deville, Khelifa Djerriri, Xavier Briottet, Arnaud Le Bris: *Detection And Area Estimation For Photovoltaic Panels In Urban Hyperspectral Remote Sensing Data By An Original NMF-Based Unmixing Method*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2018, Valencia, Spain; 07/2018, DOI:10.1109/IGARSS.2018.8518204
- Christiane Weber, Rahim Aguejdad, Xavier Briottet, Josselin Aval, Sophie Fabre, Jean Demuynck, Emmanuel Zenou, Yannick Deville, **Moussa Sofiane Karoui**, Fatima Zohra Benhalouche, Sébastien Gadal, Walid Ouerghemmi, Clément Mallet, Arnaud Le Bris, Nesrine Chehata: *Hyperspectral Imagery for Environmental Urban Planning*. IEEE International Geoscience and Remote Sensing Symposium, IEEE IGARSS 2018, Valencia, Spain; 07/2018, DOI:10.1109/IGARSS.2018.8519085
- Khelifa Djerriri, **Moussa Sofiane Karoui**, Reda Adjoudj: *Extraction of Specific Land-Cover Class Using Deep Features and SVM One-class Classification*. GEOBIA 2018, Montpellier, France; 06/2018
- Issam Boukerch, Nezha Farhi, **Moussa Sofiane Karoui**, Khelifa Djerriri, Redouane Mahmoudi: *Multispectral and Panchromatic Registration of Alsat-2 Images using Dense Vector Matching for Pan-sharpening Process*. ISPRS Technical Commission II Symposium 2018, Riva del Garda, Italy; 06/2018, DOI:10.5194/isprs-archives-XLII-2-149-2018
- Moussa Sofiane Karoui**, Fatima Zohra Benhalouche, Yannick Deville, Khelifa Djerriri, Xavier Briottet, Thomas Houet, Arnaud Le Bris: *An NMF-Based Unmixing Method with Known Spectra of Photovoltaic Panels for their Detection and Area Estimation from Urban Hyperspectral Remote Sensing Data*. 6<sup>ème</sup> colloque du Groupe Hyperspectral de la Société Française de Photogrammétrie et de Télédétection, SFPT-GH 2018, Montpellier, France; 05/2018

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