

### THE IEEE SEVENTH INTERNATIONAL CONFERENCE ON THE IMAGE AND SIGNAL PROCESSING AND THEIR APPLICATIONS



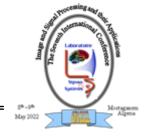


# Faculty of Sciences & TechnologySite -1- Route Belhcel Mostaganem, Algeria



8<sup>th</sup> & 9<sup>th</sup> May 2022







Sunday, May 8th

<u>08:00-08:30</u> : Registration

**08:30-08:45**: Official opening

Honorary Chair, ISPA 2022: Professor Belabbas Yagoubi

Rector of Abdelhamid Ibn Badis University of Mostaganem, Algeria

Chairs: Malika Mimi, Abdeldjalil Ouahabi and Abdelmalik Taleb-Ahmed

Conference Room I

**<u>08:45-09:30</u>** : Plenary conference I

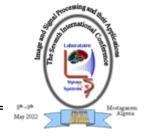
Professor Habib Zaidi

Geneva University Hospital, Switzerland

The emerging role of deep learning in multimodality medical imaging

09:30-10:00 : Coffee Break





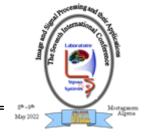
### Sunday, May 8<sup>th</sup>

#### 10h00-12h20: Oral Session

Session: Image Processing (Conference Room I)  Chairs: Pr Ayache Bouakaz, Pr Madani Ouldmammar	Session: Telecommunication (Conference Room II)  Chairs: Pr Sbaa Salim, Pr Ouldali Abdelaziz
10:00 Amina Aarizou and Mostefa Merah.  Transfer Learning for Plant Disease Detection on Complex Images.  10:20 Abdelhakim Fares, Abdallah Meraoumia and Abderrahim Fayçal Megri.  Contactless Palmprint Recognition System Using ICANet-Based Deep Features.  10:40 Insaf Adjabi, Amir Benzaoui.  Combining hand-crafted and deep-learning features for single sample face recognition  11:00 Nassima Jamila Megaiz and Abdelghani Djebbari.  Securing medical images: A crypto-watermarking and biometrics-based scheme.  11:20 Billel Nebili, Atmane Khellal, Abdelkrim Nemra, Ikbal Abdselam Bououden and Abdeldjalil Belhafsi.  Autoencoder-based Local Descriptor for Target Recognition in Infrared Images  11:40 Sara Atek, Imane Mehidi, Dalel Jabri and Djamel Eddine Chouaib Belkhiat.  SwinT-Unet: Hybrid architecture for Medical Image Segmentation Based on Swin transformer block and Dual-Scale Information  12:00 Nadia Kermouni Serradj, Messadi Mohammed and Lazzouni Sihem.	10:00 Turkiya Abes, Keltouma Nouri, Amaria Saidi and Kada Becharef.  Design of Algeria Flag shape Antenna Based On A New Circular SIW-WUVM Topology  10:20 Hakim Tayakout, Fatima Zohra Bouchibane and Elhocine Boutellaa.  A New Distributed-STBC Scheme for Cooperative Relaying in Wireless Networks  10:40 M'Hammed Achour and Mohammed Mana.  Seasonal Adjustment for traffic modeling and analysis in IEEE 802.15.4 networks  11:00 Amar Tou, Benattou Fassi, Samia Driz and Iman Ouahab.  Investigation on different Rain Conditions over 40 Gbps DPSK-FSO Link: ALGERIA Climate  11:20 Hadjer Abdi and Boukli Hacene Ismail.  A Dual Image Watermarking Scheme Based on WPT And Chaotic Encryption for Medical Data Protection  11:40 Abdennour Fellag Chebra, Ahmed Riad Borsali and Mehdi Rouissat.  Bidirectional transmission over optical fiber with Intermediate frequency for 5G system  12:00 Ahmed Moumena.  Centralized Wideband Cooperative CRs Combined with PCA Anomaly Detector in the
Classification of Fundus Images based on Multifractal Features	Presence of Jammer Attacks

12:30-13:30 Lunch Break





#### 13:30-15:10: Oral Session

Session: Signal processing (Conference Room I)  Chairs: Dr Ammar Mesloub, Dr Amir Benzaoui	Session: Biomedical engineering (Conference Room II)  Chairs: Pr Fella Hachouf, Pr Nasreddine Berrached
13:30 Mohammed Amin Adoul, Mansour Abed and Adel Belouchrani.  Enhancement of a compact support time-frequency distribution derived from a polynomial kernel using image processing  13:50 Hamidou Ghilassi, Nacerredine Lassami and Ammar Mesloub.  Non-contact estimation of breathing parameters based on CW radar  14:10 Hamza Kheddar, Ahmed Cherif Mazari and Gokhan Hakki Ilk.  Speech Steganography based on Double Approximation of LSFs Parameters in AMR Coding  14:30 Khadidja El Maati, Benoudnine Hadjira and Meche Abdelkrim.  The Effect of the Width of non-stationary Spikes on their Detection using the Kalman Filter  14:50 Lyna Henaa Hasnaoui and Abdelghani Djebbari.  Epileptic Activity Prediction Within Pre-ictal Epochs: Application on Selected Channels	13:30 Amaria Saidi, Keltouma Nouri and Turkiya Abes.  Miniature Circular Implantable antenna for Wireless Biomedical Applications 13:50 Asmae Mama Zair, Assia Bouzouad-Cherfa, Yazid Cherfa and Nour Eddine Belkhamsa.  Heart Outer Surface Segmentation from Computed Tomography Images 14:10 Abdelakram Hafid, Mehdi Medjek, Redouane Abd El Ghani Bediaf and Sabrina Difallah.  Affordable Custom made Physiological Measurment Instrumentation Based on Raspberry Pl 14:30 Iman Ouahab, Samia Driz and Benattou Fassi.  All Optical Biosensors for Glucose and Urea Detection Based on Photonic Crystal Nano T echnology 14:50 Sarah Arab, Aissa Boudjella and Bachir Bellebna.  Validation of machine learning for Clinical Assessment of lumbar spine pathologies Using Graphic User Interface





#### **15:10-16:10**: Poster Session I

#### **Chairs**: Pr Abdelmalik Taleb-Ahmed and Pr Salim Sbaa

PI.1: Aissa Boudjella, Manal Yasmine Boudjella and Bachir Bellebna.

Epileptic Disease Prediction Using Graphic User Interface - Machine Learning Algorithm.

PI.2: Hichem Mahgoun, Ali Taieb, Boussad Azmedroub and Boularbah Souissi.

Generalized Pareto distribution exploited for ship detection as a model for sea clutter in a Pol-SAR application

PI.3: Ihssane Houhou, Athmane Zitouni, Yassine Ruichek, Salah Eddine Bekhouche and Abdelmalik Taleb-Ahmed.

Improving ViBe-based Background Subtraction Techniques Using RGBD Information.

P1.4: Manel Labdi, Mohamed Bentoumi, Mohamed Daoud, Larbi Arezki and Mansour Abed.

On the framework of cardiac arrhythmia characterization using morphological and statistical features.

PI.5: Baya Lina Menai and Mohamed Chaouki Babahenini.

Recognizing the style of a fine-art painting with EfficientNet and Transfer learning.

**PI.6:** Rahmouna El Bouslemti and Salah-Belkhodja Faouzi.

New Type of Power Dividers of Microstrip Transmission Lines.

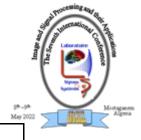
**PI.7:** Nour El Houda Yahi and Sid Ahmed Elahmar.

TH-UWB Cooperative Relaying Network with Filtering.

PI.8: Wahiba Belgacem, Belgacem Nassima and Rabah Mohammed Amin.

New Circular Polarization Flexible Ku Microstrip Antenna Design for Direct Broadcast Satellite Application.





P1.9: Kadda Djebbar, Malika Mimi, Khadidja Berradja and A. Taleb-Ahmed.

Deep convolutional neural networks for detection and classification of tumors in mammograms: A survey

PI.10: Aounallah Naceur and Khalfa Ali.

Direction-of-arrival estimation with new versions of Min-Norm algorithm based on Nyström method.

PI.11: Hakima Moulay, Ahmed Bouzidi Djebbar and Brahim Dehri.

Blind Digital Modulation Classification for Cooperative STBC-OFDM Systems based on Random Subspace and AdaBoost Classifiers.

PI.12: Abdesselam Ferdi, Said Benierbah and Youcef Ferdi.

U-Net-based COVID-19 CT Image Semantic Segmentation: A Transfer Learning Approach.

PI.13: Fayza Ghembaza and Abdelghani Djebbari.

A Robust dynamic EEG Channel selection using Time-frequency Extended Renyi Entropy.

P1.14: Hicham Megnafi, Khayra Haddouche and Karaouzene Zoheir.

Creation of an application under MapBasic for the drive test reports automation in cellular networks.

**PI.15:** Asmaa Hadjer Saboundji, Souhila Meziane, Mohammed Dahmani, Abdelkrim Meche and Mokhtar Keche.

Accurate visible light positioning system using neural network.

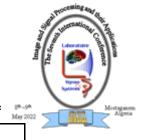
**PI.16:** Lysa Ait Messaoud and **Fatiha Merazka**.

PSO and CPSO Based Interference Alignment for K-User MIMO Interference Channel.

PI.17: Imed Amamra, Nadir Derouiche and Oulfa Laouar.

Non-Sliding Window Decoding of Braided Convolutional Codes.





PI.18: Abderrahim Annou, Souad Berhab and Fouad Chebbara.

Koch Snowflake Fractal Patch Antenna with ENG Metamaterial loads for WiMAX and Wi-Fi.

PI.19: Hamza Chekireb, Lamya Fergani and Rochedi Rouaibia.

Improving LTE network retainability KPI prediction performance using LSTM and Data Filtering technique.

**PI.20:** Aissa Boudjella, Charaf Eddine Chenen, Bachir Bellebna, Sarah Arab and Rabah Guerbouz.

Machine learning on the diagnosis of brain tumors.

**PI.21:** Yahia Hathat, Samai Djamel, Benlamoudi Azeddine, Bensid Khaled and Taleb-Ahmed Abdelmalik.

SNCF workers detection in the railway environment based on improved YOLO v5.

PI.22: Adel Boudiaf, Khaled Harrar, Said Benlahmidi, Rachid Zaghdoudi, Slimane Ziani and Samira Taleb.

Automatic surface defect recognition for hot-rolled steel strip using AlexNet convolutional neural network.

P1.23: Mohamed Amine Guerroudji, Kahina Amara, Djamel Aouam, Nadia Zenati, Oualid Djekoune and Mostefa Masmoudi.

Brain Tumor Segmentation on MRI using a GVF Snake Model.

**PI.24:** Samia Bougareche, **Soraya Zehani** and Malika Mimi.

Fashion Classification using Machines Learning, Deep Learning Models and Transfert Learning.

P1.25: Mohammed Belkheir, Mehdi Rouissat, Mohamed Achraf Boukhobza, Allel Mokaddem and Merahi Bouziani.

A New lightweight solution against the version number attack in RPL-based IoT networks.

16:10-16:30 : Coffee Break





### Sunday, May 8<sup>th</sup>

#### 16h20-18h00: Oral Session

Session: Applications I (Conference Room I)  Chairs: Pr Abdeldjalil Ouahabi, Dr Merzak Ferroukhi	Session: Applications II (Conference Room II)  Chairs: Pr Habib Zaidi, Dr Soraya Zehani
16:20 Abdelmalik Mekaoussi and Mohammed Titaouine.  Analysis of the U-shaped geometry of a frequency selective surface using the WCIP.  16:40 Ahmed Krobba, Mohamed Debyeche and Sid Ahmed Selouani.  Study of the Performance of Speaker Verification System based on Multi-resolution Cochleagram Features in Noisy Environment.  17:00 Achraf Djerida.  Assessment of drought conditions in Algeria using satellite images on the period (2000-2021).  17:20 Lyes Abada, Saliha Aouat, Roufaida Elfani and Yesma Hinane Zamoum.  Three-dimensional photometric reconstruction of a single view using machine learning techniques.  17:40 Zhor Diffallah, Hadjer Ykhlef and Hafida Abed.  Mean Teacher for Weakly Supervised Polyphonic Sound Event Detection: An Empirical Study.	16:20 Hamza Abadlia, Ammar Mesloub and Ibrahim Kakouche.  Image reconstruction and enhancement for radar imaging using IR-UWB signals.  16:40 Azeddine Bensaad, Khaled Loukhaoukha and Said Sadoudi.  Keypoint-based copy-move forgery detection in digital images: a survey.  17:00 Kahina Amara, Ali Aouf, Oussama Kerdjidj, Hoceine Kennouche, Oualid Djekoune, Mohamed Amine Guerroudji, Nadia Zenati and Djamel Aouam.  Augmented Reality for COVID-19 Aid Diagnosis: Ct-Scan segmentation based Deep Learning.  17:20 Hichem Mahgoun, Ali Taieb, Boussad Azmedroub and Mounira Ouarzeddine.  Combination of MUSIC inversion algorithm with SKP decomposition for forest height estimation in a Tomography SAR application.  17:40 Isma Akli, Kamel Abdous and Sebaa Abderahmane.  Hardware in The Loop Simulation for robot Navigation with RFID.





Monday, November 25th

<u>08:00-08:30</u>: Registration

<u>08:30-09:15</u>: Plenary conference II

Professor Ayache Bouakaz.

Directeur de recherche Inserm, University of Tours, France

**Ultrasound imaging** 

09:15-09:45: Coffee Break





### Monday, November 25<sup>th</sup>

#### 09h45-12h05: Oral Session

Session: Image Processing (Conference Room 1)	Session: Telecommunication (Conference Room 2)
<u>Chairs</u> : Pr Ayache Bouakaz, Pr Madani Ouldmammar	<u>Chairs</u> : Dr Chaker Essid, Dr Mustapha K. Abderrahmane Didiche
09:45 Merzak Ferroukhi.	09:45 Amel Haouzi, Samir Kameche and Haroun Errachid Adardour.
Automatic diagnosis of COVID-19 using deep learning	Overiew: Application of Cognitive Radio Technology in Fifth-Generation Wireless
10:05 Ismail Haddad, Djamel Herbadji, Belmeguenai Aissa and Selma	Communications
Boumerdassi.	10:05 Billal Belmahdi and Mazighi Khaled.
Color image encryption based on Fractional-order logistic map	Implementation Efficiency of a Two-Stage EDFA Amplifier with an Inverted Trapezoidal Filter on Gain Flattening
<u>10:25</u> <u>Imane Nedjar</u> , Hicham Mohamed Sekkil, Mahmoud Mebrouki and Mokhtaria Bekkaoui.	_
A Comparison of Convolutional Neural Network Models for Driver Fatigue	10:25 Fadila Berrahma, Khalida Ghanem and Hicham Bousbia-Salah.  A New Multi-user Spatial Modulation Scheme Combining STBC-OFDM and
Detection	CDMA
10:45 Radja Kheddam and Aichouche Belhadj Aissa.	10:45 Mehdi Damou, M. Chetioui, A. Boudkhil, S. Gouni, R. Bouhmidi and
Supervised Classification of Satellite Images: From Statistical Approach to	Bohafs Bouras.
Metaheuristic Approach	Coupled Rectangular Waveguide Resonator Filter Using 3D-HFSS Based Admittance Extraction
11:05 Meriem Saim and Amel Feroui.	
Classification and Diagnosis of Alzheimer's Disease based on a combination of Deep Features and Machine Learning	<u>11:05</u> <u>Mohammed Chetioui</u> , Abdelhakim Boudkhil, Damou Mehdi, Mansouri Boualem, Fatima Bouasria and Nasreddine Benahmed.
11:25 Zoubida Mahi, Moussa Sofiane Karoui and Mokhtar Keche.	A MEMS Cone-shaped Helix Antenna for THz Applications Using ANN
A new star detection algorithm based on the combination of thresholding and	11:25 Ahmed Zitouni.
filtering technique	C-shaped UWB Dielectric Resonator Antenna With Dual Band-Notched
11:45 Hossena Djouima, Athmane Zitouni, A. Chaouki Megherbi and S. Sbaa.	Characteristics for WLAN and X-Band Applications
Classification of Breast Cancer Histopathological Images using DensNet201	

12:10-13:15 Lunch Break





#### **13:15-14:15:** Poster Session II

#### Chairs: Pr Abdelmalik Taleb-Ahmed and Pr Abdelkrim Ouafi

PII.1: Aissa Boudjella, Manal Yasmine Boudjella and Bachir Bellebna.

Machine Learning KNN Classification An Approach on Detecting Abnormality in Brain Tissues MRI-Graphic User Interface.

PII.2: Aissa Boudjella, Manal Yasmine Boudjella and Bachir Bellebna.

Parkinson 's Disease Prediction Using Graphic User Interface-Machine Learning Algorithm.

**PII.3:** Mohamed Benaouali, Mohamed Bentoumi, Menad Touati, Abdelmalik Taleb Ahmed and Malika Mimi.

Segmentation and classification of benign and malignant breast tumors via texture characterization from ultrasound images.

**PII.4:** Farah Faical, Laroussi Toufik and Madjidi Hichem.

A Fast Ship Detection Algorithm based on Automatic Censoring for Multiple Target Situations in SAR Images.

**PII.5:** Atrouche Mabrouk, Ayad Soulef and Belattar Mounir.

Comparative Study of dynamic Fairness and Fixed Power allocation Algorithms In Non- Orthogonal Multiple Access system.

PII.6: Saida Sarra Boudouh and Mustapha Bouakkaz.

Breast Cancer: Using Deep Transfer Learning Techniques AlexNet Convolutional Neural Network For Breast Tumor Detection in Mammography Images.

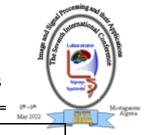
#### PII.7: Aida Chefrour.

A modified Incremental Density Based Clustering Algorithm.

PII.8: Widad Belaoura, Khalida Ghanem, Hicham Bousbia Salah and Mourad Nedil.

On the Impact of Hardware Impairments on mm-Wave MIMO Underground Channel Estimation.





#### PII.9: Basma Beroual, Abir Betka and Salim Sbaa.

A review and Comparing different of the most commonly Criteria for human age estimation techniques.

PII.10: Madaoui Lotfi and Malika Kedir-Talha.

Classification of gait patterns in the time domain using accelerometer signal.

PII.11: Imene Setha and Hassina Aliane.

Paragraph vector model for plagiarism detection.

PII.12: Lyes Abada, Merouane Bennaceur, Ahmed Boudjenana and Saliha Aouat.

Using PSO metaheuristic to solve photometric 3D reconstruction.

PII.13: Sara Sabba, Nahla Chkired, Hana Kateb, Nassira Chekkai and Mohammed Chelbi.

Sentiment Analysis for IMDb Reviews Using Deep Learning Classifier.

PII.14: Houda Latrache, Lallouani Bouchakour and Fariza Meziani.

Isolated Arabic Characters Recognition System Based On Combined Features And DNN.

**PII.16:** Sid Ahmed Henni, Sidali Bourenane, Benabdellah Yagoubi and Jean Caelen.

Detection of serious falls by camera for the safety of old person in intelligent building.

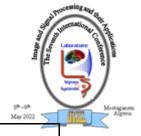
**PII.17:** Omar Guermoua, Abdelheq Boukarkar, Abdelmounaim Boulahbel, M.Anouar Ghozlane and M. Amine Merabet.

A Continuously Tunable Low-Cost 311 Phase Shifter for Beam-Steering Applications.

PII.18: Yasser Radouane Haddadi and Boualem Mansouri.

Ultrasound Medical Image Deconvolution Using L2 Regularization Method and Artificial Bee Colony Optimization Algorithm.





**PII.19:** Salima Attache, Labib Sadek Terrissa, **Ikram Remadna**, Soheyb Ayad, Fadila Madaci and Noureddine Zerhouni.

Predicting COVID-19 Outbreak in Algeria Using Long Short-Term Memory Networks.

PII.20: Hakim Tayakout, Fatima Zohra Bouchibane and Elhocine Boutellaa.

On the Robustness of Digital Modulation Recognition for Cooperative Relaying Networks under Imperfect CSI.

**PII.21:** Fayçal Abbas, **Mehdi Malah** and Mohamed Chaouki Babahenini.

Efficient deep Neural Network Architectures for Subsurface Scattering Approximation.

PII.22: Khalil Bousbai and Mostefa Merah.

Hand Gesture Recognition Using Capabilities of Capsule Network and Data Augmentation.

14:15-14:30: Coffee Break





#### 14h30-16h50: Oral Session

Session: Application I (Conference Room 1)  Chairs: Pr Youcef Ferdi, Pr Nasr-Eddine Berrached	Session: Applications II (Conference Room 2)  Chairs: Pr Zine-Eddine Baarir, Pr Fella Hachouf
14:30 Nour El Houda Bouakal, Messaoud Hettiri, Abdelhakim Chergui, Abdelkrim Ouafi, Azeddine Benlamoudi and Salah Eddine Bekhouche.  Kinship Verification System based on the Color Spaces Analysis	14:30 Hadjer Ykhlef, Zhor Diffallah and Adel Allali.  Ensembling Residual Networks for Multi-Label Sound Event Recognition with Weak Labeling
14:50 Hasna Yazid and Said Gaci.  Machine learning-based techniques for reservoir characterization using rock-typing from well logs	14:50 Fethi Demim, Abdelkrim Nemra, Abdenebi Rouigueb, Abdelouahab Bazoula, Mustapha Hamerlain and Rekia Bouguessa.  Localization of an Unmanned Aerial Vehicle with an Improved Technique based
15:10 Zahira Hanane Meftahi and Medjeded Merati.  Utilization of pre-trained models of CNN in mammograms processing for the diagnosis of breast cancer	on New Form of the Smooth Variable Structure Filter  15:10 Ahcene Arbaoui, Chouaib Aribi and Saddika Mohamadi.  CNN-based Concrete Cracks Detection Using Multiresolution Analysis
15:30 <u>Djamel Eddine Boudechihce</u> , Nadir Boudjefdjouf and Said Benierbah.  Reducing the feedback requests in distributed coding of capsule endoscopy images with an LSTM model	15:30 Reda Yagoub, Mohamed Benaissa and Belkacem Benadda.  Web Browser Based Real Time Spectrum Analyzer for RTL-SDR Dongles  15:50 Nadjla Bentekhici, Assia Saad and Ahmed Zegrar.
15:50 Souad Chabbi, Faiçal Farah and Nouh Guidoum.  CFAR-CNN Detector of Ships from SAR Image Using Generalized Gamma Distribution and Real Dataset	Contribution of spectral indices of chlorophyll (RECl and GCI) in the analysis of multi-temporal mutations of cultivated land in the Mostaganem plateau
16:10 Aissa Boudjella, Manal Yasmine Boudjella, Bachir Bellebna and Djamila El-Kebir.	16:10 Wahiba Menasri and Karim Meddah.  Low level Syntax Elements Study in Intra HEVC/H.265 Video Codec  16:20 Nouradding Aigsgori. Podovona Kaibay and Mahamad Salah Azzaz
Machine Learning-Based Classification of Chest X-Ray MRI Images into Covid- 19 -Graphic User Interface  16:30 Aissa Amrouche, Youssouf Bentrcia, Ahcène Abed and Nabil Hezil.	<u>16:30</u> Noureddine Aissaoui, <u>Redouane Kaibou</u> and Mohamed Salah Azzaz.  Real-Time FPGA Implementation of Digital Video Watermarking Techniques using Co-Design Approach: Comparative Study
Vehicle Detection and Tracking in Real-time using YOLOv4-tiny	





#### **16:50-17:30:** Awards and Closing of the IEEE ISPA 2022

*Chairs*: Pr Malika Mimi, Pr Abdelmalik Taleb Ahmed and Pr Abdeldjalil Ouahabi