Preliminary programme of SPSympo 2021 - sessions

S1 — Image Processing and Recognition — Chair: TBD

Keynote	Prof. Feng Xu	Novel DL methods in SAR image processing
152	Wu, Jiayu (1); Zhu, Zhanyu (2); Wang, Haipeng (1)	Human Detection and Action Classification Based on Millimeter Wave Radar Point Cloud Imaging Technology
115	Puchala, Dariusz; Stokfiszewski, Kamil	Sparse Neural Networks With Topologies Inspired by Butterfly Structures
166	Żabiński, Hubert; Stankiewicz, Olgierd	Composition of Similarity Metrics for Correspondence Matching in Depth Estimation
147	Zhou, Tao; Xia, Zhaoyang; Wang, Xiangfeng; Xu, Feng	Human Sleep Posture Recognition Based On Millimeter-Wave Radar
117	Escola, João Paulo Lemos (1,3); Guido, Rodrigo Capobianco (2); da Silva, Ivan Nunes (1); Fonseca, Everton Silva (3)	Wavelet transform applied to coffee entomology

S2 — Audio and video processing — Chair: TBD

Keynote	Prof. Janusz Konrad	Indoor Scene Analysis from Overhead Fisheye Cameras
104	Misiurewicz, Jacek (1); Bruliński, Konrad (2); Klembowski, Wiesław (3); Kulpa, Krzysztof (1)	Modeling multipath propagation of acoustic signal in a swimming pool
127	Khyzhniak, Mariia; Malanowski, Mateusz	Localization of an Acoustic Emission Source Based on Time Difference of Arrival
176	Rosa Zurera, Manuel; Utrilla-Manso, Manuel; Gil-Pita, Roberto; Garcia-Gomez, Joaquín	Analysis of error in sound sources position estimation with microphone arrays
158	Sadura, Piotr	Motion-Based Multiple Object Detection and Tracking in Video Stream
163	Lorkiewicz, Mateusz (1); Stankiewicz, Olgierd (1); Domański, Marek (1); Hang, Hsueh-Ming (2); Peng, Wen-Hsiao (2)	Fast Selection of INTRA CTU Partitioning in HEVC Encoders using Artificial Neural Networks
157	Wojtuń, Jarosław	Comparison Procedures of Determination Masking Threshold for Audio Data Hiding Applications
122	Bogus, Magdalena; Bujacz, Michał	Analysis of mouth click sounds used in echolocation

S3 — Synthetic aperture radars and radar imagery — Chair: TBD

Keynote	Prof. Marco Martorella	Recent advances in 3D Radar Imaging of Non-Cooperative Targets
175	Gromek, Damian; Samczynski, Piotr; Stasiak, Krzysztof; Julczyk, Jakub; Wielgo, Maciej; Abratkiewicz, Karol	Experimental Results of SAR Imaging Using aLow-Cost X-band Radar with a PLL with DirectModulation for UAV Applications
149	Eskandari, Meysam; Karbasi, Seyed Mohammad	A Novel Criterion for Array Geometry Optimization
107	Gromek, Artur	Non-coherent change detection in real SAR satellite imagery with usage of the CFAR algorithms
110	Zhang, Mengdi; Liao, Guisheng; Xu, Jingwei	High-Resolution SAR Imaging with Orthogonal Sub-Band Frequency Diverse Array
138	Lazarov, Andon; Kabakchiev, Christo	ISAR IMAGING PHASE CORRECTION ALGORITHM BASED ON ENTROPY MINIMIZATION
118	Liu, Jiaxuan; Luomei, Yixiang; Yuan, Xudong; Xu, Feng	Polarimetric Calibration of Mini SAR based on UAV Platform

S4 — Telecommunication/Radar signal processing — Chair: TBD

Keynote	Prof. Tomasz Zieliński	*Starting Signal Processing in 5G*
101	Lange, Christoph (1); Ahrens, Andreas (2)	Power and Energy Efficiency Optimization of Baseband Transmission Links
154	Gajewski, Piotr; Lopatka, Jerzy; Lubkowski, Piotr	Traffic Modelling for Mobile Ad-hoc Networks Simulation
102	Abratkiewicz, Karol; Samczyński, Piotr	Multitaper Time-Frequency Reassigned Spectrogram in Micro-Doppler Radar Signal Analysis
144	Liu, Xiaobin; Zhao, Feng; Wu, Qihua; Ai, Xiaofeng	Target HRRP Reconstruction Based on Waveform Delay Dictionary with Phase-coded Pulse in Anechoic Chamber
113	Carotenuto, Vincenzo (1); Aubry, Augusto (1); De Maio, Antonio (1); Izzo, Alessio (1); Farina, Alfonso (2); Schiano Lo Moriello, Rosario (1)	PA Distortions on Radar Signals for Spectral Coexistence

S5 — Signal Processing Components — Chair: TBD

Keynote	Prof. Sławomir Hausman	Electromagnetic Metamaterials and Metasurfaces: Design, Fabrication, and Applications
146	Dewilde, Patrick	Advances in multi-variable, non-Gaussian stochastic parametrization
100	Klobe, Stefan (1); Ahrens, Andreas (1); Lange, Christoph (2); Müller, Ingo (1); Leitert, Petra (1); Zascerinska, Jelena (1)	Resource Allocation in Correlated and Non-Correlated MIMO Systems
136	Wiechno, Tomasz; Yatsymirskyy, Mykhaylo	An Efficient Conjugate-Pair, Iterative FFT and FHT Algorithms
	Chlebowicz, Łukasz; Kujawiński, Mateusz; Wroński, Damian; Cybulski, Bartłomiej; Granosik, Grzegorz	Comparison of slip-compensated odometry for tracked, four- and six-wheel vehicles

S6 — Geoscience and Remote Sensing — Chair: TBD

180	Wangiyana, Sandhi; Samczyński, Piotr; Gromek, Artur	Effects of SAR Resolution in Automatic Building Segmentation Using CNN
172	Budzinska, Katarzyna (1); Mevius, Maaijke (2); Grzesiak, Marcin (1); Rothkaehl, Hanna (1)	Detection of periodic disturbances in LOFAR calibration solutions
167	Kryk, Michał; Malon, Krzysztof; Kelner, Jan M.	Algorithm of Creating Propagation Attenuation Maps Based on Parabolic Equation Method
171	Pozoga, Mariusz; Ciechowska, Helena; Grzesia, Marcin; Rothkaehl, Hanna; Wronowski, Roman; Matyjasiak, Barbara; Tomasik, Łukasz; Budzińska, Katarzyna	Ionospheric scintillation diagnostic on LOFAR ILT network in single station mode
112	Averyanova, Yuliya; Yanovsky, Felix; Shcherbina, Olga; Ostroumov, Ivan; Kuzmenko, Nataliia; Zaliskyi, Maksym; Solomentsev, Oleksandr; Sushchenko, Olha	Polarimetric-radar drop size evaluation for wind speed estimate based on Weber criterion
170	Grzesiak, Marcin; Pożoga, Mariusz; Matyjasiak, Barbara; Przepiórka, Dorota; Rothkaehl, Hanna	Determining ionospheric drift and anisotropy of irregularities from LOFAR core measurements
173	Szewczyk, Tomasz; Rothkaehl, Hanna; Morawski, Marek	Wavelet-Based Classification of Spectral Data for Space Plasma Monitoring

S7 — Localization and Tracking — Chair: TBD

120	Marino, Angela (1); Aubry, Augusto (1); De Maio, Antonio (1); Braca, Paolo (2)	3D Localization for Multiplatform Radar Networks with Deployable Nodes
131	Kolakowski, Marcin	Adaptive Anchor Pairs Selection in a TDOA-based System Through Robot Localization Error Minimization
128	Stasiak, Krzysztof; Ciesielski, Marek; Khyzhniak, Mariia; Żywek, Marcin; Rupniewski, Marek	Measurement Error Correlation in Processing of Overlapping Blocks in FMCW Radar
169	Szczepanik, Rafał; Kelner, Jan M.; Ziółkowski, Cezary	Overlaping-based Radio Signal Processing for SDF Location Method

S8 — Passive Radar — Chair: TBD

137	Gomez-del-Hoyo, Pedro-Jose; Jarabo-Amores, María-Pilar; Mata-Moya, David; Rey-Maestre, Nerea; Rosado-Sanz, Javier	2D Ground Target Location Using GPS based Passive Radar
174	Rytel-Andrianik, Rafał; Kulpa, Krzysztof; Stasiak, Krzysztof; Malanowski, Mateusz	Preliminary detection results obtained with experimental airborne passive radar
177	Jędrzejewski, Konrad (1); Kulpa, Krzysztof (1); Pożoga, Mariusz (2)	Field Trials of Passive Radiolocation using LOFAR Radio Telescope and External Reference Receiver
132	Żywek, Marcin; Malanowski, Mateusz	Performance Optimization for Passive Bistatic Radar Based on Detection Range Predictions
142	Mazurek, Gustaw	Signal conditioning for DAB-illuminated passive radar

S9 — Radar systems and application — Chair: TBD

111	Abratkiewicz, Karol (1); Gambrych, Jacek (1); Stasiak, Krzysztof (1,2); Samczyński, Piotr (1,2)	Estimation of Rotational Speed of Helicopter Rotor Through Horizontal Synchrosqueezing
129	Julczyk, Jakub Kamil; Stasiak, Krzysztof; Gromek, Damian; Ciesielski, Marek	Four-Channel Ground-Based C-Band FMCW Radar Demonstrator
139	Xia, Zhaoyang; Zhou, Tao; Wang, Xiangfeng; Xu, Feng	Long-distance Hand-Gesture Recognition on Millimeter Wave Radar
161	Serafin, Piotr; Miluski, Witold; Leśnik, Czesław; Pietrow, Dymitr	Classification of human being using micro-Doppler signature in radar echo
	Plotnitskaya, Ekaterina; Vorobev, Evgenii; Veremyev, Vladimir	Analysis of Spectrum Signatures from Rotating Blades of Small Drone

S10	Signal and Image Processing for Medical Application I	Chair: TBD
123	Augustyniak, Piotr	Distance Metrics for Classification of Arbitrarily Sampled Patterns – an ECG Example
135	Kotiuchyi, Ivan (1,2); Pernice, Riccardo (4); Popov, Anton (2,3); Kharytonov, Volodymyr (5); Faes, Luca (4)	Mutual Information Analysis of Brain-Heart Interactions in Epileptic Children
116	Samowicz, Martyna (1); Wieteska, Anna (1); Redlicka, Justyna (2); Koter, Katarzyna (1); Zubrycki, Igor (1)	Hand measurement based on integrated vision system- Leap Motion
159	Buś, Szymon (1); Jędrzejewski, Konrad (1); Guzik, Przemysław (2)	A Study on Selection of HRV-based Features for Different Classifiers in Atrial Fibrilation Detection
134	Dominik, Ilona (1); Praczko, Ewa (2); Zubrycki, Igor (1)	Motivating wearable device for plegic hand rehabilitation
178	Kawecki, Robert (1); Oleksy, Paweł (2); Kawecki, Jarosław (3); Korbel, Piotr (4); Hausman, Slawomir (5)	TELASSISTENT SERVICES USING THE 5G NETWORK ON A REMOTE GUIDE FOR THE BLIND PERSONS

S11	Signal and Image Processing for Medical Application II	Chair: TBD
156	Plucińska, Renata (1); Jędrzejewski, Konrad (1); Rogala, Jacek (2); Malinowska, Urszula (2); Waligóra, Marek (2)	Experimental studies on the efficiency of people authentication using data from the same and different examinations
182	Oleksy, Paweł; Januszkiewicz, Łukasz	Improved Wireless Capsule Endoscope Localization with Phase Detection Algorithm
160	Nerusil, Boris; Polec, Jaroslav; Skunda, Juraj	Detection of Dyslexia Using Eye Tracking
125	Stajuda, Mateusz (1,2); Garcia Cava, David (2); Liskiewicz, Grzegorz (1)	Evaluation of EMD and SSA sensitivity for efficient detection of aerodynamic instabilities in centrifugal compressors
124	Vodianyk, Bohdan (1); Seleznov, Ivan (1,2); Chernykh, Mariia (3); Zyma, Igor (3); Popov, Anton (1,4); Kiyono, Ken (2)	Analysis of Brain Reaction to Emotional Faces
140/153	Yang, Xianghan; Xia, Zhaoyang; Xu, Feng; Mo, Yinan	Cross-domain human motion recognition / Human Behavior Recognition Based on Multi-Dimensional Feature Learning of Millimeter-Wave Radar

S12	Radar Signal Processing	Chair: TBD
143	Swietach, Zbigniew	A Modeling Problem of a Continuous Time Domain Signal by its Discrete Counterpart
130	Rupniewski, Marek Wojciech	TRISH — a Triggerless Random Interleaved Sampling Hardware
106	Gambrych, Jacek	Mitigating of received signal power loss caused by multipath effect in phased array radars
126	Kulpa, Krzysztof; Łukasz, Maślikowski; Bączyk, Marcin Kamil	Ground Clutter Analises in Noise Radar using Unmatched Filter Concept
162	Maślikowski, Łukasz	Calibration of Transmitting and Receiving Array of a Radar using MIMO Measurement
108	Liu, Zhuo; Zhang, Xu; Wang, HaiPeng; Wang, Feng	A Hybrid Algorithm for Radar Cross Section Calculation of Electrically Large Targets

S10	Signal and Image Processing for Medical Application I	Chair: TBD
123	Augustyniak, Piotr	Distance Metrics for Classification of Arbitrarily Sampled Patterns – an ECG Example
135	Kotiuchyi, Ivan (1,2); Pernice, Riccardo (4); Popov, Anton (2,3); Kharytonov, Volodymyr (5); Faes, Luca (4)	Mutual Information Analysis of Brain-Heart Interactions in Epileptic Children
116	Samowicz, Martyna (1); Wieteska, Anna (1); Redlicka, Justyna (2); Koter, Katarzyna (1); Zubrycki, Igor (1)	Hand measurement based on integrated vision system- Leap Motion
159	Buś, Szymon (1); Jędrzejewski, Konrad (1); Guzik, Przemysław (2)	A Study on Selection of HRV-based Features for Different Classifiers in Atrial Fibrilation Detection
134	Dominik, Ilona (1); Praczko, Ewa (2); Zubrycki, Igor (1)	Motivating wearable device for plegic hand rehabilitation
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S11	Signal and Image Processing for Medical Application II	Chair: TBD