



## 43rd WIC Symposium on Information Theory and Signal Processing in the Benelux

Thursday May 11<sup>th</sup>, 2023

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09:15 – 09:45	Welcome and Registration
09:45 – 09:50	Opening
09:50 – 10:50	<b>Invited talk</b> : Millimeter-wave joint communication and sensing <b>Joerg Widmer</b> (IMDEA Networks)
	Coffee break
11:10 – 12 :30	<b>Session 1 : Radar</b> <ul style="list-style-type: none"><li>• <i>Environment Mapping with 28 GHz Beam Steering Transceivers Using the SAGE Algorithm – Preliminary Results</i>, Nigus Yirga (ULB), Claude Oestges (UCLouvain), François Quitin (ULB)</li><li>• <i>Multistatic Fusion of Beamforming Feedbacks and Passive Wi-Fi Radar for AoD-based Localization</i>, Martin Willame (UCLouvain), Laurent Storrer, Hasan Can Yildirim, François Horlin (ULB), Jérôme Louveaux (UCLouvain)</li><li>• <i>Group Counting Using Micro-Doppler Signatures From a 77GHz FMCW Radar: A CNN Approach</i>, Dejvi Cakoni, Laurent Storrer, Philippe De Doncker, François Horlin (ULB)</li><li>• <i>New EM-Based Radar Propagation Model</i>, François De Saint Moulin, Christophe Craeye, Luc Vandendorpe, Claude Oestges (UCLouvain)</li></ul>
12:30 – 14 :00	Lunch and Poster session P1
14 :00 – 15 :20	<b>Session 2 : Communications</b> <ul style="list-style-type: none"><li>• <i>Coded beam searching for bi-directional optical wireless communication system</i>, Lev Azarkh, Jean-Paul M. G. Linnartz (TU/e and Signify)</li><li>• <i>The influence of Bivariate Empirical Mode Decomposition parameters on AI-based Automatic Modulation Recognition accuracy</i>, Alexander Gros, Véronique Moeyaert, Patrice Mégret (UMONS)</li><li>• <i>Enhancing Signal Classification on Embedded Devices with Spectrum Painting</i>, Bingyang Li (University of Chinese Academy of Sciences), Qing Wang (TU Delft)</li><li>• <i>RF Energy Harvester Circuits Supplied with Multi-sine Signals</i>, Jarne Van Mulders, Chesney Buyle, Lieven De Strycker, Liesbet Van der Perre (KU Leuven)</li></ul>
	Coffee break
15 :40 – 16 :40	WIC general assembly
18:00 – 19:00	Social event “Le Chat déambule »
19 :30 - ...	Gala Dinner

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## Friday May 12<sup>th</sup>, 2023

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09:50 – 10:50	<b>Invited talk</b> : Introduction to Graph Signal Processing <b>Geert Leus</b> (TU Delft)
	Coffee break
11:10 – 12 :30	<b>Session 3 : Signal Processing</b> <ul style="list-style-type: none"><li>• <i>Variance of Likelihood of Data</i>, Fetze Pijlman, Jean-Paul M. G. Linnartz (Signify and TU/e)</li><li>• <i>A Semi-supervised Interactive Algorithm for Change Point Detection</i>, Zhenxiang Cao, Nick Seeuws, Maarten De Vos, Alexander Bertrand (KU Leuven)</li><li>• <i>Detect-and-Avoid for multi-agent systems</i>, Ellen Riemens, Raj Thilak Rajan (TU Delft)</li><li>• <i>Identifying Temporal Correlations Between Natural One-Shot Videos and EEG Signals</i>, Yuanyuan Yao, Axel Stebner, Tinne Tuytelaars, Simon Geirnaert, Alexander Bertrand (KU Leuven)</li></ul>
12:30 – 14 :00	Lunch and Poster session P2
14 :00 – 15 :20	<b>Session 4 : Machine Learning</b> <ul style="list-style-type: none"><li>• <i>Deep-learning based Image Retrieval from Videos</i>, Sinian Li, Doruk Barokas Profeta, Justin Dauwels (TU Delft)</li><li>• <i>Barrett's Neoplasia Detection using a minimal Integer-based Neural Network for Embedded Systems Integration</i>, Tim G.W. Boers, Carolus H.J. Kusters (TU/e), Kiki N. Fockens, Jelmer B. Jukema, Martijn B. Jong, Jeroen de Groof (Amsterdam University Medical Center), Jacques J. Bergman, Fons van der Sommen, Peter H.N de With (TU/e)</li><li>• <i>Linear discriminant analysis with unlabelled data</i>, Nicolas Heintz, Tom Francart, Alexander Bertrand (KU Leuven)</li><li>• <i>Machine learning algorithm to predict cardiac output based on arterial pressure measurements</i>, Alan Hamo, Shuoyan Zhao, Niki Ottenhof, Jan-Wiebe H Korstanje, Justin Dauwels (TU Delft)</li></ul>
	Coffee break
15 :40	Awards and closing session

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### List of posters for poster session P1

- *Lower bound on the maximal size of deletion/insertion and substitution correcting codes*, Ward J. P. Spee, Jos H. Weber (TU Delft)
- *Performance Comparison of the Fractional Fourier Transform and Matched Filtering for Delay-Doppler Estimation with a Wideband LFM Preamble*, Ids Van der Werf, Richard C. Hendriks (TU Delft), Richard Heusdens (TU Delft and Netherlands Defence Academy)
- *QoS Satisfaction Game for Random Access Resource Management*, Guillaume Thiran, Ivan Stupia, Luc Vandendorpe (UCLouvain)
- *MmWave Array Configuration Impact on Head-Mounted Display Performance*, Alexander Marinšek (KU Leuven), X. Cai (Lund University), L. De Strycker (KU Leuven), F. Tufvesson (Lund University), L. Van der Perre (KU Leuven)
- *Prediction of Postinduction Hypotension by Machine Learning*, Shuoyan Zhao, Alan Hamo, Niki Ottenhof, Jan-Wiebe H Korstanje, Justin Dauwels (TU Delft)
- *Trajectory Smoothing for Distributed Formation Control of Multiagent Systems*, Zhonggang Li, Raj Thilak Rajan (TU Delft)

- *Demonstrating CSMA-NDA for Control Area Networks with Off-the-Shelf components*, François Quitin, Michel Osée (ULB)

### List of posters for poster session P2

- *Acoustic transfer function estimation exploiting spectral correlations*, Giovanni Bologni, Richard Heusdens, Richard C. Hendriks (TU Delft)
- *Automated Calibration of CCTV Cameras*, Giacomo D'Amicantonio, Egor Bondarau, Peter H.N. De With (TU/e)
- *Efficient Content-Based Image Retrieval of Historical Video Resources using Compact Deep Learning Network and Local Descriptors*, Doruk Barokas Profeta, Sinian Li, Justin Dauwels (TU Delft), Andrea Nanetti (Nanyang Technological University)
- *A Configurable RAN Model to Evaluate and Reduce its Power Consumption and Carbon Footprint*, Louis Golard, David Bol, Jérôme Louveaux (UCLouvain)
- *Sensor Selection using the Two-Target Cramer-Rao Bound for Angle of Arrival Estimation*, Costas A. Kokke (TU Delft), Mario Coutiño, Laura Anitori (Netherlands Organisation for Applied Scientific Research), Richard Heusdens (Netherlands Defence Academy), Geert Leus (TU Delft)
- *Drive-Line Extraction from Aerial Images*, Julien A. Vijverberg, Bart J. Beers (Cyclomedia Technology B.V.), Egor Bondarev, Peter H. N. de With (TU/e)
- *Range and Phase Offset Estimation of Multiple Transponder-equipped Aviation Vehicles*, Mostafa Mohammadkarimi, Geert Leus, Raj Thilak Rajan (TU Delft)