

### **Statistical evaluation of barkhausen noise testing (BNT) for ground samples**

Tomkowski, R., Sorsa, A., Santa-Aho, S., Lundin, P. & Vippola, M., 1 Nov 2019, In : *Sensors (Switzerland)*. 19, 21, 4716.  
Research output: Contribution to journal > Article > Scientific > peer-review

### **Sensor Fusion for Unobtrusive Respiratory Rate Estimation in Dogs**

Antink, C. H., Pirhonen, M., Väättäjä, H., Somppi, S., Tornqvist, H., Cardo, A., Teichmann, D., Vainio, O., Surakka, V. & Vehkaoja, A., 15 Aug 2019, In : *IEEE Sensors Journal*. 19, 16, p. 7072-7081 10 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

### **Methods for simultaneous robot-world-hand-eye calibration: A comparative study**

Ali, I., Suominen, O., Gotchev, A. & Morales, E. R., 2 Jun 2019, In : *Sensors (Switzerland)*. 19, 12, 2837.  
Research output: Contribution to journal > Article > Scientific > peer-review

### **Automatic numerical differentiation by maximum likelihood estimation of a linear Gaussian state space model**

Piche, R., 1 Jun 2019, *2019 18th European Control Conference, ECC 2019*. IEEE, p. 1861-1865 5 p.  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Composite nonlinear feedback control of a JIB trolley of a tower crane behaviors**

Pyrhönen, V-P. & Vilkkö, M. K., 1 Jun 2019, *2019 18th European Control Conference, ECC 2019*. IEEE, p. 1124-1129 6 p. 8796229  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Impact of Different Concrete Types on Radio Propagation: Fundamentals and Practical RF Measurements**

Asp, A., Hentilä, T., Valkama, M., Pikkuvirta, J., Hujanen, A. & Huhtinen, I., 1 Jun 2019, *2019 4th International Conference on Smart and Sustainable Technologies, SpliTech 2019*. Rodrigues, J. J. P. C., Solic, P., Perkovic, T., Vukojevic, K., Rodrigues, J. J. P. C., Patrono, L. & Nizetic, S. (eds.). IEEE  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Location-based beamforming architecture for efficient farming applications with drones**

Wang, W., Okati, N., Tanash, I., Riihonen, T. & Lohan, E-S., 1 Jun 2019, *2019 International Conference on Localization and GNSS, ICL-GNSS 2019*. Lohan, E-S., Rugamer, A., Nurmi, J., Koch, W. & Heuberger, A. (eds.). IEEE  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Methods for long-term GNSS clock offset prediction**

Pihlajasalo, J., Leppäkoski, H., Kuismanen, S., Ali-Löyty, S. & Piche, R., 1 Jun 2019, *2019 International Conference on Localization and GNSS, ICL-GNSS 2019*. Lohan, E-S., Rugamer, A., Nurmi, J., Koch, W. & Heuberger, A. (eds.). IEEE  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Secure environmental monitoring for industrial internet of things: From framework to live implementation**

Bezzateev, S., Voloshina, N., Zhidanov, K. & Ometov, A., 1 Jun 2019, *2019 International Conference on Localization and GNSS, ICL-GNSS 2019*. Lohan, E-S., Rugamer, A., Nurmi, J., Koch, W. & Heuberger, A. (eds.). IEEE  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Bioimpedance Sensor Array for Long-Term Monitoring of Wound Healing from Beneath the Primary Dressings and Controlled Formation of H<sub>2</sub>O<sub>2</sub> Using Low-Intensity Direct Current**

Kekonen, A., Bergelin, M., Johansson, M., Kumar Joon, N., Bobacka, J. & Viik, J., 31 May 2019, In : *Sensors*. 19, 11  
Research output: Contribution to journal > Article > Scientific > peer-review

### **Double-side pumped membrane external-cavity surface-emitting laser (MECSEL) with increased efficiency emitting > 3 W in the 780 nm region**

Kahle, H., Phung, H-M., Penttinen, J-P., Rajala, P., Tukiainen, A., Ranta, S. & Guina, M., 1 May 2019, *2019 Conference on Lasers and Electro-Optics, CLEO 2019 - Proceedings*. IEEE  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Error analysis of NOMA-based user cooperation with SWIPT**

Li, S., Bariah, L., Muhaidat, S., Sofotasios, P., Liang, J. & Wang, A., 1 May 2019, *Proceedings - 15th Annual International Conference on Distributed Computing in Sensor Systems, DCOSS 2019*. IEEE, p. 507-513 7 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Frequency Comb Generation in a Continuous-Wave Pumped Second-Order Nonlinear Waveguide Resonator**

Abdallah, Z., Stefszky, M., Ulvila, V., Silberhorn, C. & Vainio, M., 1 May 2019, *2019 Conference on Lasers and Electro-Optics, CLEO 2019 - Proceedings*. IEEE

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **High-Q resonance train in a plasmonic metasurface**

Saad-Bin-Alam, M., Reshef, O., Huttunen, M. J., Carlow, G., Sullivan, B., Menard, J. M., Dolgaleva, K. & Boyd, R. W., 1 May 2019, *2019 Conference on Lasers and Electro-Optics, CLEO 2019 - Proceedings*. IEEE

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Optical Frequency Comb Photoacoustic Spectroscopy**

Sadiek, I., Mikkonen, T., Vainio, M., Toivonen, J. & Foltynowicz, A., 1 May 2019, *2019 Conference on Lasers and Electro-Optics, CLEO 2019 - Proceedings*. IEEE

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Alpha radiation-induced luminescence by am-241 in aqueous nitric acid solution**

Kerst, T., Malmbeck, R., Ial Banik, N. L. & Toivonen, J., 1 Apr 2019, In : *Sensors (Switzerland)*. 19, 7, 1602.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Automatic detection of water inside concrete slabs using ground penetrating radar**

Khan, M. A., Vehmas, R. & Visa, A., 1 Apr 2019, *2019 IEEE Radar Conference, RadarConf 2019*. IEEE

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Positioning information privacy in intelligent transportation systems: An overview and future perspective**

Ometov, A., Bezzateev, S., Davydov, V., Shchesniak, A., Masek, P., Lohan, E. S. & Koucheryavy, Y., 1 Apr 2019, In : *Sensors*. 19, 7, 1603.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Circularly Polarized Textile Tag Antenna for Wearable Passive UHF RFID Systems**

Kuang, Y., Ma, S., Ukkonen, L., Virkki, J. & Björninen, T., 18 Mar 2019, *2018 International Applied Computational Electromagnetics Society Symposium in China, ACES-China 2018*. IEEE

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Comparison of Human Head Phantoms with Different Complexities for Implantable Antenna Development**

Ma, S., Ukkonen, L., Sydänheimo, L. & Björninen, T., 18 Mar 2019, *2018 International Applied Computational Electromagnetics Society Symposium in China, ACES-China 2018*. IEEE

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Advancements in Solution Processable Devices using Metal Oxides For Printed Internet-of-Things Objects**

Berger, P. R., Li, M., Mattei, R. M., Niang, M. A., Talisa, N., Tripepi, M., Harris, B., Bhalerao, S. R., Chowdhury, E. A., Winter, C. H. & Lupo, D., 1 Mar 2019, *2019 Electron Devices Technology and Manufacturing Conference, EDTM 2019*. IEEE, p. 160-162 3 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Charge Storage Level Sensor RFID Tag: Impedance Matching and Experimental Characterisation**

Pournoori, N., Ukkonen, L., Sydänheimo, L. & Björninen, T., 1 Mar 2019, *13th European Conference on Antennas and Propagation, EuCAP 2019*. IEEE

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Optimization of RFID-Based Tunnel Access Monitoring System Antenna Reading Areas**

Kordelin, K., Virkki, J., Kordelin, J., Kuusman, J., Mattila, J., Johansson, M., Ukkonen, L. & Sydänheimo, L., 1 Mar 2019, *13th European Conference on Antennas and Propagation, EuCAP 2019*. IEEE, 8739592

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Path Loss Characterization for Intra-Vehicle Wearable Deployments at 60 GHz**

Semkin, V., Ponomarenko-Timofeev, A., Karttunen, A., Galinina, O., Andreev, S. & Koucheryavy, Y., 1 Mar 2019, *13th European Conference on Antennas and Propagation, EuCAP 2019*. IEEE

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Strain Reliability of Embroidered Passive UHF RFID Tags on 3D-printed Substrates**

Khan, Z., Rizwan, M., Rusanen, R., Ukkonen, L. & Virkki, J., 1 Mar 2019, *13th European Conference on Antennas and Propagation, EuCAP 2019*. IEEE

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Energy Detection-Based Spectrum Sensing over Fisher-Snedecor F Fading Channels**

Yoo, S. K., Cotton, S. L., Sofotasios, P. C., Muhaidat, S., Badarneh, O. S. & Karagiannidis, G. K., 20 Feb 2019, *2018 IEEE Global Communications Conference*. IEEE, 8647778

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Improved Session Continuity in 5G NR with Joint Use of Multi-Connectivity and Guard Bandwidth**

Kovalchukov, R., Moltchanov, D., Begishev, V., Samuylov, A., Andreev, S., Koucheryavy, Y. & Samouylov, K., 20 Feb 2019, *2018 IEEE Global Communications Conference, GLOBECOM 2018*. IEEE

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **M2M Communication Assessment in Energy-Harvesting and Wake-Up Radio Assisted Scenarios Using Practical Components**

Rinne, J., Keskinen, J., Berger, P. R., Lupo, D. & Valkama, M., 16 Nov 2018, In : *Sensors (Basel, Switzerland)*. 18, 11

Research output: Contribution to journal › Article › Scientific › peer-review

### **Inertial Odometry on Handheld Smartphones**

Solin, A., Cortes, S., Rahtu, E. & Kannala, J., 5 Sep 2018, *2018 21st International Conference on Information Fusion, FUSION 2018*. IEEE, p. 1361-1368 8 p. 8455482

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **User Positioning in mmW 5G Networks Using Beam-RSRP Measurements and Kalman Filtering**

Rastorgueva-Foi, E., Costa, M., Koivisto, M., Leppänen, K. & Valkama, M., 5 Sep 2018, *2018 21st International Conference on Information Fusion, FUSION 2018*. IEEE, p. 1150-1156 7 p. 8455289

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Inertial Sensor-Based State Estimation of Flexible Links Subject to Bending and Torsion**

Mäkinen, P., Mononen, T. & Mattila, J., 27 Aug 2018, *2018 14th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications, MESA 2018*. IEEE, 8 p. 8449188

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Real-time and Robust Collaborative Robot Motion Control with Microsoft Kinect © v2**

Teke, B., Lanz, M., Kämäräinen, J-K. & Hietanen, A., 27 Aug 2018, *2018 14th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications, MESA 2018*. IEEE, 6 p. 8449156

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Role-based visualization of industrial IoT-based systems**

Mahmoodpour, M., Lobov, A., Lanz, M., Mäkelä, P. & Rundas, N., 27 Aug 2018, *2018 14th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications, MESA 2018*. IEEE, 8 p. 8449183

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Fabrication and reliability evaluation of passive UHF RFID T-shirts**

Chen, X., He, H., Ukkonen, L., Virkki, J., Lu, Y. & Lam, H., 8 Jun 2018, *2018 IEEE International Workshop on Antenna Technology, iWAT2018 - Proceedings*. IEEE, p. 1-4 4 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

**Acquiring respiration rate from photoplethysmographic signal by recursive bayesian tracking of intrinsic modes in time-frequency spectra**

Pirhonen, M., Peltokangas, M. & Vehkaoja, A., 1 Jun 2018, In : *Sensors*. 18, 6, 1693.

Research output: Contribution to journal > Article > Scientific > peer-review

**Evaluation of dry electrodes in canine heart rate monitoring**

Virtanen, J., Somppi, S., Törnqvist, H., Jeyhani, V., Fiedler, P., Gizatdinova, Y., Majaranta, P., Väätäjä, H., Cardó, A. V., Lekkala, J., Tuukkanen, S., Surakka, V., Vainio, O. & Vehkaoja, A., 1 Jun 2018, In : *Sensors*. 18, 6, 1757.

Research output: Contribution to journal > Article > Scientific > peer-review

**Restoration of low-dose digital breast tomosynthesis**

Borges, L. R., Azzari, L., Bakic, P. R., Maidment, A. D. A., Vieira, M. A. C. & Foi, A., 19 Apr 2018, In : *Measurement Science and Technology*. 29, 6, 064003.

Research output: Contribution to journal > Article > Scientific > peer-review

**A novel technique for analysis of postural information with wearable devices**

Jeyhani, V., Mahdiani, S., Viik, J., Oksala, N. & Vehkaoja, A., 2 Apr 2018, *2018 IEEE 15th International Conference on Wearable and Implantable Body Sensor Networks, BSN 2018*. IEEE, p. 30-33 4 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**An activity recognition framework deploying the random forest classifier and a single optical heart rate monitoring and triaxial accelerometer wrist-band**

Mehrang, S., Pietilä, J. & Korhonen, I., 22 Feb 2018, In : *Sensors*. 18, 2, 613.

Research output: Contribution to journal > Article > Scientific > peer-review

**Detection and Classification of Acoustic Scenes and Events: Outcome of the DCASE 2016 Challenge**

Mesaros, A., Heittola, T., Benetos, E., Foster, P., Lagrange, M., Virtanen, T. & Plumbley, M. D., Feb 2018, In : *IEEE/ACM Transactions on Audio Speech and Language Processing*. 26, 2, p. 379-393

Research output: Contribution to journal > Article > Scientific > peer-review

**Screen-printed curvature sensors for soft robots**

Koivikko, A., Raei, E. S., Mosallaei, M., Mäntysalo, M. & Sariola, V., 2018, In : *IEEE Sensors Journal*. 18, 1, p. 223-230

Research output: Contribution to journal > Article > Scientific > peer-review

**Separation of Moving Sound Sources Using Multichannel NMF and Acoustic Tracking**

Nikunen, J., Diment, A. & Virtanen, T., 2018, In : *IEEE/ACM Transactions on Audio Speech and Language Processing*. 26, 2, p. 281-295

Research output: Contribution to journal > Article > Scientific > peer-review

**Designing, Manufacturing and Testing of a Piezoelectric Polymer Film In-Sole Sensor for Plantar Pressure Distribution Measurements**

Rajala, S., Mattila, R., Kaartinen, I. & Lekkala, J., 15 Oct 2017, In : *IEEE Sensors Journal*. 17, 20, p. 6798-6805 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Adaptive and nonlinear control of discharge pressure for variable displacement axial piston pumps**

Koivumäki, J. & Mattila, J., 1 Oct 2017, In : *Journal of Dynamic Systems, Measurement and Control: Transactions of the ASME*. 139, 10, 101008.

Research output: Contribution to journal > Article > Scientific > peer-review

**Fluorimetric oxygen sensor with an efficient optical read-out for in vitro cell models**

Välimäki, H., Verho, J., Kreutzer, J., Kattiparambil Rajan, D., Rynnänen, T., Pekkanen-Mattila, M., Ahola, A., Tappura, K., Kallio, P. & Lekkala, J., 1 Oct 2017, In : *Sensors and Actuators B: Chemical*. 249, p. 738-746 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Chipless graphene tag and dual-CP reader for Internet of Things**

Dong, G., Shen, Y., He, H., Virkki, J. & Hu, S., 26 Sep 2017, *2017 International Applied Computational Electromagnetics Society Symposium in China, ACES-China 2017*. IEEE

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **New Evidence for the Mechanism of Action of a Type-2 Diabetes Drug Using a Magnetic Bead-Based Automated Biosensing Platform**

Uddin, R., Nur-E-Habiba, N., Rena, G., Hwu, E. T. & Boisen, A., 22 Sep 2017, In : *ACS Sensors*. 2, 9, p. 1329-1336 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Binary Non-Negative Matrix Deconvolution for Audio Dictionary Learning**

Drgas, S., Virtanen, T., Lücke, J. & Hurmalainen, A., 1 Aug 2017, In : *IEEE/ACM Transactions on Audio Speech and Language Processing*. 25, 8, p. 1644-1656 13 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Monitoring pH, temperature and humidity in long-term stem cell culture in CO<sub>2</sub> incubator**

Rajan, D. K., Verho, J., Kreutzer, J., Valimäki, H., Ihalainen, H., Lekkala, J., Patrikoski, M. & Miettinen, S., 19 Jul 2017, *2017 IEEE International Symposium on Medical Measurements and Applications (MeMeA)*. IEEE, p. 470-474 5 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Developing curiosity and multimedia skills with programming experiments**

Henno, J., Jaakkola, H. & Mäkelä, J., 10 Jul 2017, *2017 40th International Convention on Information and Communication Technology, Electronics and Microelectronics, MIPRO 2017 - Proceedings*. IEEE, p. 694-699 6 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Open data based value networks: Finnish examples of public events and agriculture**

Linna, P., Mäkinen, T. & Yrjökoski, K., 10 Jul 2017, *2017 40th International Convention on Information and Communication Technology, Electronics and Microelectronics, MIPRO 2017 - Proceedings*. IEEE, p. 1448-1453 6 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **The educators' telescope to the future of technology**

Jaakkola, H., Henno, J., Thalheim, B. & Mäkelä, J., 10 Jul 2017, *2017 40th International Convention on Information and Communication Technology, Electronics and Microelectronics, MIPRO 2017 - Proceedings*. IEEE, p. 660-665 6 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Today is the future of yesterday; What is the future of today?**

Jaakkola, H., Henno, J., Mäkelä, J. & Thalheim, B., 10 Jul 2017, *2017 40th International Convention on Information and Communication Technology, Electronics and Microelectronics, MIPRO 2017 - Proceedings*. IEEE, p. 635-643 9 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Introduction to the Special Section on Sound Scene and Event Analysis**

Richard, G., Virtanen, T., Bello, J. P., Ono, N. & Glotin, H., 1 Jun 2017, In : *IEEE/ACM Transactions on Audio Speech and Language Processing*. 25, 6, p. 1169-1171 3 p.

Research output: Contribution to journal > Article > Scientific

#### **Secure and connected wearable intelligence for content delivery at a mass event: A case study**

Ometov, A., Solomitskii, D., Olsson, T., Bezzateev, S., Shchesniak, A., Andreev, S., Harju, J. & Koucheryavy, Y., 1 Jun 2017, In : *Journal of Sensor and Actuator Networks*. 6, 2, 5.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Joint-Space Kinematic Model for Gravity-Referenced Joint Angle Estimation of Heavy-Duty Manipulators**

Vihonen, J., Mattila, J. & Visa, A., 2017, In : *IEEE Transactions on Instrumentation and Measurement*. 66, 12, p. 3280-3288

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Non-destructive and wireless monitoring of biodegradable polymers**

Salpavaara, T., Hänninen, A., Antniemi, A., Lekkala, J. & Kellomäki, M., 2017, In : *Sensors and Actuators B: Chemical*. 251, p. 1018-1025

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Structural characterization, spectroscopic, thermal, AC conductivity and dielectric properties and antimicrobial studies of $(C_8H_{12}N)_2[SnCl_6]$**

Mathlouthi, M., Valkonen, A., Rzaigui, M. & Smirani, W., 2017, In : *PHASE TRANSITIONS*. 90, 4, p. 399-414 16 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Blind Separation of Audio Mixtures Through Nonnegative Tensor Factorization of Modulation Spectrograms**

Barker, T. & Virtanen, T., 1 Dec 2016, In : *Ieee-Acm transactions on audio speech and language processing*. 24, 12, p. 2377-2389 13 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Adaptive multiresolution method for MAP reconstruction in electron tomography**

Acar, E., Peltonen, S. & Ruotsalainen, U., 1 Nov 2016, In : *Ultramicroscopy*. 170, p. 24-34 11 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Measurement of sensitivity distribution map of a ferroelectret polymer film**

Rajala, S., Paajanen, M. & Lekkala, J., 27 Sep 2016, In : *IEEE Sensors Journal*. 16, 23, p. 8517-8522

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Electromagnetism and cross-disciplinary problems**

Kettunen, L. & Kovanen, T., 19 Sep 2016, *2016 URSI International Symposium on Electromagnetic Theory, EMTS 2016*. IEEE, p. 500-501 2 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Texture region detection by trained neural network**

Naumenko, A., Krivenko, S., Lukin, V. & Egiazarian, K., 9 Aug 2016, *9th International Kharkiv Symposium on Physics and Engineering of Microwaves, Millimeter and Submillimeter Waves, MSMW 2016*. IEEE

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Frequency domain penetration loss in the terahertz band**

Kokkonen, J., Lehtomäki, J., Petrov, V., Moltchanov, D. & Juntti, M., 27 Jun 2016, *2016 Global Symposium on Millimeter Waves (GSMM) & ESA Workshop on Millimetre-Wave Technology and Applications*. IEEE

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **On prediction of DCT-based denoising efficiency under spatially correlated noise conditions**

Rubel, O., Lukin, V. & Egiazarian, K., 12 Apr 2016, *2016 13th International Conference on Modern Problems of Radio Engineering, Telecommunications and Computer Science (TCSET)*. IEEE, p. 750-754 5 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Microwave assisted laser-induced breakdown spectroscopy at ambient conditions**

Viljanen, J., Sun, Z. & Alwahabi, Z. T., 1 Apr 2016, In : *Spectrochimica Acta Part B: Atomic Spectroscopy*. 118, p. 29-36 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Amplifier similariton laser with extra-broad bandwidth output pulse**

Korobko, D. A., Okhotnikov, O. G. & Zolotovskii, I. O., 1 Mar 2016, In : *Laser Physics Letters*. 13, 3, 035106.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Piezoresistive natural rubber-multiwall carbon nanotube nanocomposite for sensor applications**

Selvan, N. T., Eshwaran, S. B., Das, A., Stöckelhuber, K. W., Wießner, S., Pötschke, P., Nando, G. B., Chervanyov, A. I. & Heinrich, G., 1 Mar 2016, In : *Sensors and Actuators, A: Physical*. 239, p. 102-113 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **High performance corrosion resistant coatings by novel coaxial cold- and hot-wire laser cladding methods**

Pajukoski, H., Näkki, J., Thieme, S., Tuominen, J., Nowotny, S. & Vuoristo, P., 2016, In : *Journal of Laser Applications*. 28, 1, 012011.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Metrics for polyphonic sound event detection**

Mesaros, A., Heittola, T. & Virtanen, T., 2016, In : *Applied Sciences*. 6, 6, 162.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Evaluating transparent liquid screen overlay as a haptic conductor: Method of enhancing touchscreen based user interaction by a transparent deformable liquid screen overlay**

Farooq, A., Evreinov, G., Raisamo, R. & Takahata, D., 31 Dec 2015, *2015 IEEE SENSORS - Proceedings*. Institute of Electrical and Electronics Engineers Inc., 7370186

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Inkjet-printed dual microfluidic-based sensor integrated system**

Su, W., Cooper, J. R., Cook, B. S., Tentzeris, M. M., Mariotti, C. & Roselli, L., 31 Dec 2015, *2015 IEEE SENSORS - Proceedings*. Institute of Electrical and Electronics Engineers Inc., 7370300

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Rapid and sensitive detection of norovirus antibodies in human serum with a bilayer interferometry biosensor**

Auer, S., Koho, T., Uusi-Kerttula, H., Vesikari, T., Blazevic, V. & Hytönen, V. P., 31 Dec 2015, In : *Sensors and Actuators B: Chemical*. 221, p. 507-514 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **RFID-Based Wireless Passive Sensors Utilizing Cork Materials**

Gonçalves, R., Rima, S., Magueta, R., Pinho, P., Collado, A., Georgiadis, A., Hester, J., Carvalho, N. B. & Tentzeris, M. M., 1 Dec 2015, In : *IEEE Sensors Journal*. 15, 12, p. 7242-7251 10 p., 7222363.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Coupled dictionaries for exemplar-based speech enhancement and automatic speech recognition**

Baby, D., Virtanen, T., Gemmeke, J. F. & Van hamme, H., 1 Nov 2015, In : *IEEE-Acm transactions on audio speech and language processing*. 23, 11, p. 1788-1799 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Sensitivity modeling of an RFID-based strain-sensing antenna with dielectric constant change**

Yi, X., Wu, T., Wang, Y. & Tentzeris, M. M., 1 Nov 2015, In : *IEEE Sensors Journal*. 15, 11, p. 6147-6155 9 p., 7152827.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Noncontact Respiration Monitoring during Sleep with Microwave Doppler Radar**

Zakrzewski, M., Vehkaoja, A., Joutsen, A. S., Palovuori, K. T. & Vanhala, J. J., 1 Oct 2015, In : *IEEE Sensors Journal*. 15, 10, p. 5683-5693 11 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Circularly polarized shorted ring slot rectenna with a mesh design for optimized inkjet printing on paper substrate**

Martinez, R., Kimionis, J., Georgiadis, A., Collado, A., Tentzeris, M., Goussetis, G. & Tornero, J. L., 27 Aug 2015, *2015 9th European Conference on Antennas and Propagation, EuCAP 2015*. Institute of Electrical and Electronics Engineers Inc., 7228814

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Humidity passive sensors based on UHF RFID using cork dielectric slabs**

Goncalves, R., Pinho, P., Carvalho, N. B. & Tentzeris, M. M., 27 Aug 2015, *2015 9th European Conference on Antennas and Propagation, EuCAP 2015*. Institute of Electrical and Electronics Engineers Inc., 7228346

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**Low-cost microfluidics-enabled tunable loop antenna using inkjet-printing technologies**

Su, W., Cook, B. S. & Tentzeris, M. M., 27 Aug 2015, *2015 9th European Conference on Antennas and Propagation, EuCAP 2015*. Institute of Electrical and Electronics Engineers Inc., 7228990

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**Improving reliability for classification of metallic objects using a WTMD portal**

Makkonen, J., Marsh, L. A., Vihonen, J., Järvi, A., Armitage, D. W., Visa, A. & Peyton, A. J., 26 Aug 2015, In : *Measurement Science and Technology*. 26, 10, 105103.

Research output: Contribution to journal > Article > Scientific > peer-review

**Optimal emission enhancement in orthogonal double-pulse laser-induced breakdown spectroscopy**

Sanginés, R., Contreras, V., Sobral, H. & Robledo-Martinez, A., 6 Jul 2015, In : *Spectrochimica Acta Part B: Atomic Spectroscopy*. 110, p. 139-145 7 p., 4935.

Research output: Contribution to journal > Article > Scientific > peer-review

**Passive resonance sensor based method for monitoring particle suspensions**

Salpavaara, T., Järveläinen, M., Seppälä, S., Yli-Hallila, T., Verho, J., Viikko, M., Lekkala, J. & Levänen, E., 8 Jun 2015, In : *Sensors and Actuators B: Chemical*. 219, p. 324-330 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Development of Low Cost, Wireless, Inkjet Printed Microfluidic RF Systems and Devices for Sensing or Tunable Electronics**

Mariotti, C., Su, W., Cook, B. S., Roselli, L. & Tentzeris, M. M., 1 Jun 2015, In : *IEEE Sensors Journal*. 15, 6, p. 3156-3163 8 p., 6966729.

Research output: Contribution to journal > Article > Scientific > peer-review

**Low-cost inkjet-printed fully passive RFID tags for calibration-free capacitive/haptic sensor applications**

Kim, S., Kawahara, Y., Georgiadis, A., Collado, A. & Tentzeris, M. M., 1 Jun 2015, In : *IEEE Sensors Journal*. 15, 6, p. 3135-3145 11 p., 6945328.

Research output: Contribution to journal > Article > Scientific > peer-review

**Dilute nitride SOAs for high-speed data processing in variable temperature conditions**

Giannoulis, G., Korpijärvi, V. M., Iliadis, N., Mäkelä, J., Viheriälä, J., Apostolopoulos, D., Guina, M. & Avramopoulos, H., 13 Mar 2015, *Optical Fiber Communication Conference, OFC 2015*. OSA - The Optical Society

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**Light beam hysteresis in liquid crystals**

Piccardi, A., Alberucci, A., Kravets, N., Assanto, G., Buchnev, O. & Kaczmarek, M., 2014, *2014 Fotonica AEIT Italian Conference on Photonics Technologies, Fotonica AEIT 2014*. IEEE COMPUTER SOCIETY PRESS, 6843888

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**RFID-based sensors for zero-power autonomous wireless sensor networks**

Cook, B. S., Vyas, R., Kim, S., Thai, T., Le, T., Traille, A., Aubert, H. & Tentzeris, M. M., 2014, In : *IEEE Sensors Journal*. 14, 8, p. 2419-2431 13 p., 6701187.

Research output: Contribution to journal > Article > Scientific > peer-review

**Development of a constant dilution sampling system for particulate and gaseous pollutant measurements**

Tzankiozis, T., Ntziachristos, L., Amanatidis, S., Niemelä, V., Ukkonen, A. & Samaras, Z., Aug 2013, In : *Measurement Science and Technology*. 24, 8, 085801.

Research output: Contribution to journal > Article > Scientific > peer-review

**Polarization control of the bound state of a vector soliton**

Gumenyuk, R. & Okhotnikov, O. G., May 2013, In : *Laser Physics Letters*. 10, 5, p. 1-3 3 p., 055111.

Research output: Contribution to journal > Article > Scientific > peer-review



### **160W single-frequency laser based on active tapered double-clad fiber amplifier**

Trikshev, A. I., Kurkov, A. S., Tsvetkov, V. B., Filatova, S. A., Kertulla, J., Filippov, V., Chamorovskiy, Y. K. & Okhotnikov, O. G., 2013, *Optics InfoBase Conference Papers*.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Ambient rf energy harvesting sensor device with capacitor-leakage-aware duty cycle control**

Shigeta, R., Sasaki, T., Quan, D. M., Kawahara, Y., Vyas, R. J., Tentzeris, M. M. & Asami, T., 2013, In : *IEEE Sensors Journal*. 13, 8, p. 2973-2983 11 p., 6521342.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Detection of KC1 and KOH using collinear photofragmentation and atomic absorption spectroscopy**

Sorvajarvi, T., Rossi, J. & Toivonen, J., 2013, *The European Conference on Lasers and Electro-Optics, CLEO\_Europe 2013*.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Cysteine-tagged chimeric avidin forms high binding capacity layers directly on gold**

Vikholm-Lundin, I., Auer, S., Paakkunainen, M., Määttä, J. A. E., Munter, T., Leppiniemi, J., Hytönen, V. P. & Tappura, K., Aug 2012, In : *Sensors and Actuators B: Chemical*. 171-172, p. 440-448 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Design and development of a novel passive wireless ultrasensitive RF temperature transducer for remote sensing**

Thai, T. T., Mehdi, J. M., Chebila, F., Aubert, H., Pons, P., Dejean, G. R., Tentzeris, M. M. & Plana, R., 2012, In : *IEEE Sensors Journal*. 12, 9, p. 2756-2766 11 p., 6208808.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Third order nonlinear optical response of TTF-based molecular corners**

Iliopoulos, K., Czaplicki, R., Ouazzani, H. E., Balandier, J-Y., Chas, M., Goeb, S., Sallé, M., Gindre, D. & Sahraoui, B., 2012, In : *Nonlinear Optics, Quantum Optics*. 43, 1-4, p. 205-212 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Detection of 3,4-methylenedioxymethamphetamine (MDMA, ecstasy) by displacement of antibodies**

Vikholm-Lundin, I., Auer, S. & Hellgren, A. C., 10 Aug 2011, In : *Sensors and Actuators B: Chemical*. 156, 1, p. 28-34 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Measurement of the refractive index dispersion of As<sub>2</sub>Se<sub>3</sub> bulk glass and thin films prior to and after laser irradiation and annealing using prism coupling in the near- and mid-infrared spectral range**

Carlie, N., Anheier, N. C., Qiao, H. A., Bernacki, B., Phillips, M. C., Petit, L., Musgraves, J. D. & Richardson, K., May 2011, In : *Review of Scientific Instruments*. 82, 5, 053103.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Dark solitons in nematic liquid crystals**

Piccardi, A., Alberucci, A., Assanto, G. & Tabiryan, N., 2011, *Optics InfoBase Conference Papers*.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Directional selectivity through the subwavelength slit in metallic gratings**

Cakmakyapan, S., Caglayan, H., Serebryannikov, A. & Ozbay, E., 2011, *CLEO: Applications and Technology*.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Directional selectivity through the subwavelength slit in metallic gratings**

Cakmakyapan, S., Caglayan, H., Serebryannikov, A. & Ozbay, E., 2011, *CLEO: Science and Innovations 2011*.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Directional selectivity through the subwavelength slit in metallic gratings**

Cakmakyapan, S., Caglayan, H., Serebryannikov, A. & Ozbay, E., 2011, *Quantum Electronics and Laser Science Conference, QELS 2011*. 3 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Inkjet printed, self powered, wireless sensors for environmental, gas, and authentication-based sensing**

Vyas, R., Lakafosis, V., Lee, H., Shaker, G., Yang, L., Orecchini, G., Traille, A., Tentzeris, M. M. & Roselli, L., 2011, In : *IEEE Sensors Journal*. 11, 12, p. 3139-3152 14 p., 6008617.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Multimode waveguides in nematic liquid crystals**

Izdebskaya, Y. V., Desyatnikov, A. S., Assanto, G. & Kivshar, Y. S., 2011, *Conference on Lasers and Electro-Optics/Pacific Rim, CLEOPR 2011*. p. 1912-1913 2 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Self-assembled monolayers (SAMs) of porphyrin deposited inside solid-core photonic crystal fibre (SCPCF)**

Veselov, A., Efimov, A., Chamorovskiy, A., Okhotnikov, O., Kosolapov, A., Levchenko, A., Lemmetyinen, H. & Tkachenko, N., 2011, *Access Networks and In-house Communications, ANIC 2011*.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Spatial solitons carrying phase singularities in nematic liquid crystals**

Izdebskaya, Y. V., Desyatnikov, A. S., Assanto, G. & Kivshar, Y., 2011, *Conference on Lasers and Electro-Optics/Pacific Rim, CLEOPR 2011*. p. 444-445 2 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Spatial solitons in a self-focusing medium with tunable nonlinearity**

Piccardi, A., Alberucci, A., Assanto, G. & Kaczmarek, M., 2011, *Optics InfoBase Conference Papers*.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Theory of near-IR metatronic nanocircuits using transparent conducting oxides (TCO)**

Caglayan, H. & Engheta, N., 2011, *Frontiers in Optics 2011*. Optical Society of America

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Third harmonic generation enhancement in nematic liquid crystals via nonlocal solitons propagation**

Peccianti, M., Pasquazi, A., Assanto, G. & Morandotti, R., 2011, *CLEO: Science and Innovations, CLEO\_SI 2011*.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Nematicon routing in liquid crystal light valve**

Piccardi, A., Alberucci, A., Bortolozzo, U., Residori, S. & Assanto, G., 2010, *Optics InfoBase Conference Papers*.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Soliton self-deflection via power-dependent walk-off**

Piccardi, A., Alberucci, A. & Assanto, G., 2010, *Optics InfoBase Conference Papers*.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Routing light with nematicons: Light localization and steering in liquid crystals**

Assanto, G., Peccianti, M., Alberucci, A. & Piccardi, A., 2009, *Optics InfoBase Conference Papers*. Optical Society of America, p. 2281-2282 2 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Single KTIPO4 nanocrystals for nonlinear probing of local optical fields and interaction with a metallic nanostructure**

Le Xuan, L., Slablab, A., Zhou, C., Chauvat, D., De Wilde, Y., Perruchas, S., Tard, C., Gacoin, T., Villeval, P. & Roch, J. F., 2009, *Optics InfoBase Conference Papers*. Optical Society of America

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Observation of defect formation in metamaterials**

Caglayan, H., Bulu, I., Loncar, M. & Ozbay, E., 2008, *Plasmonics and Metamaterials 2008*. Optical Society of America, 2 p. MMC7

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **High power fiber lasers**

Nilsson, J., Sahu, J. K., Jeong, Y., Filippov, V. N., Soh, D. B. S., Codemard, C. A., Dupriez, P., Kim, J., Richardson, D. J., Malinowski, A., Piper, A. N., Price, J. H. V., Furusawa, K., Clarkson, W. A. & Payne, D. N., 2006, *Optics InfoBase Conference Papers*. Optical Society of America

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Highly directive radiation and negative refraction using photonic crystals**

Ozbay, E., Bulu, I., Aydin, K., Caglayan, H., Alici, K. B. & Guven, K., Feb 2005, In : *Laser Physics*. 15, 2, p. 217-224 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Fluid Transmission Line Modeling Using a Variational Method**

Mäkinen, J., Piché, R. & Ellman, A., Mar 2000, In : *Journal of Dynamic Systems, Measurement and Control: Transactions of the ASME*. 122, 1, p. 153-162 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Round Robin computer simulation of ejection probability in sputtering**

Sigmund, P., Robinson, M. T., Baskes, M. I., Hautala, M., Cui, F. Z., Eckstein, W., Yamamura, Y., Hosaka, S., Ishitani, T., Shulga, V. I., Harrison, D. E., Chakarov, I. R., Karpuzo, D. S., Kawatoh, E., Shimizu, R., Valkealahti, S., Nieminen, R. M., Betz, G., Husinsky, W., Shapiro, M. H., Vicanek, M. & Urbassek, H. M., 1 Feb 1989, In : *Nuclear Inst. and Methods in Physics Research*, B. 36, 2, p. 110-123 14 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Ranges and stopping power of KeV electrons in the solid hydrogens**

Valkealahti, S., Schou, J., Sørensen, H. & Nieminen, R. M., 1 Jan 1988, In : *Nuclear Inst. and Methods in Physics Research*, B. 34, 3, p. 321-331 11 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Molecular dynamics simulation of the damage production in Al (110) surface with slow argon ions**

Valkealahti, S. & Nieminen, R. M., 1 Jan 1986, In : *Nuclear Inst. and Methods in Physics Research*, B. 18, 1-6, p. 365-369 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review