

### **Special Issue: From Responsive Materials to Interactive Materials**

Priimägi, A. (ed.) & Hecht, S. (ed.), 2020, In : *Advanced Materials*. 32, 20

Research output: Contribution to journal › Special issue › Scientific › peer-review

### **Simulating the Drag Coefficient of a Spherical Autonomous Underwater Vehicle**

Heininen, A., Aaltonen, J. & Koskinen, K. T., 9 Oct 2017, *Proceedings of the 2nd Annual SMACC Research Seminar 2017*. Aaltonen, J., Virkkunen, R., Koskinen, K. T. & Kuivanen, R. (eds.). Tampere: Tampere University of Technology, Vol. 2. p. 53-56 4 p.

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

### **From Responsive Molecules to Interactive Materials**

Priimägi, A. (ed.) & Hecht, S. (ed.), 2020, In : *Advanced Materials*. 32, 20, 3 p., 2000215.

Research output: Contribution to journal › Editorial › Scientific

### **Slurry and dry particle erosion wear properties of WC-10Co4Cr and Cr<sub>3</sub>C<sub>2</sub>-25NiCr hardmetal coatings deposited by HVOF and HVAF spray processes**

Matikainen, V., Rubio Peregrina, S., Ojala, N., Koivuluoto, H., Schubert, J., Houdková & Vuoristo, P., 2019, In : *Tribologia*. 36, 1-2, p. 58-61 4 p.

Research output: Contribution to journal › Article › Scientific

### **Effect of microstructure on the abrasive wear resistance of steels with hardness 450 HV**

Haiko, O., Heino, V., Porter, D. A., Uusitalo, J. & Kömi, J., 2019, In : *Tribologia*. 36, 1, p. 54-57 4 p.

Research output: Contribution to journal › Article › Scientific

### **Deformability analysis and improvement in stretchable electronics systems through finite element analysis**

Di Vito, D., Mosallaei, M., Vahed, B. K., Kanerva, M. & Mäntysalo, M., 2020, *Proceedings of XXIV AIMETA Conference 2019*. Carcaterra, A., Graziani, G. & Paolone, A. (eds.). Springer, p. 755-763 9 p. (Lecture Notes in Mechanical Engineering).

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

### **Resilient Cooperative Voltage Control for Distribution Network with High Penetration Distributed Energy Resources**

Gusrialdi, A., Xu, Y., Qu, Z. & Simaan, M. A., 2020, *European Control Conference 2020, ECC 2020*. IEEE, p. 1533-1539 7 p.

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

### **Introducing Multi-Convexity in Path Constrained Trajectory Optimization for Mobile Manipulators**

Singh, A. K., Ahonen, A., Ghabcheloo, R. & Mueller, A., 2020, *European Control Conference 2020, ECC 2020*. IEEE, p. 1178-1185 8 p.

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

### **FORMI: A Fast Holonomic Path Planning and Obstacle Representation Method Based on Interval Analysis**

Mäenpää, P., Aref, M. M. & Mattila, J., 1 Nov 2019, *Proceedings of the IEEE 2019 9th International Conference on Cybernetics and Intelligent Systems and Robotics, Automation and Mechatronics, CIS and RAM 2019*. IEEE, p. 398-403 6 p. (IEEE International Conference on Cybernetics and Intelligent Systems).

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

### **Position Estimation for Drones based on Visual SLAM and IMU in GPS-denied Environment**

Motlagh, H. D. K., Lotfi, F., Taghirad, H. D. & Germi, S. B., 1 Nov 2019, *ICRoM 2019 - 7th International Conference on Robotics and Mechatronics*. IEEE, p. 120-124 5 p.

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

### **Fabrication of soft devices with buried fluid channels by using sacrificial 3D printed molds**

Koivikko, A. & Sariola, V., 24 May 2019, *2019 2nd IEEE International Conference on Soft Robotics (RoboSoft)*. IEEE, p. 509-513 5 p.

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

#### **Operating point dependent variable switching point predictive current control for PMSM drives**

Wendel, S., Karamanakos, P., Dietz, A. & Kennel, R., 1 May 2019, *PRECEDE 2019: 2019 IEEE International Symposium on Predictive Control of Electrical Drives and Power Electronics*. IEEE, p. 1-6 6 p.

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

#### **Direct model predictive power control of a series-connected modular rectifier**

Rossi, M., Liegmann, E., Karamanakos, P., Castelli-Dezza, F. & Kennel, R., 1 May 2019, *PRECEDE 2019: 2019 IEEE International Symposium on Predictive Control of Electrical Drives and Power Electronics*. IEEE, p. 1-6 6 p.

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

#### **Nanocellulose and Poly(lactic Acid) Based Multilayer Coatings for Barrier Applications**

Lahti, J., 2019, *17th Biennial TAPPI European PLACE Conference 2019*. TAPPI Press, p. 446-455 10 p.

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

#### **Market implementation of active and intelligent packaging-opportunities from a socio-economic perspective**

Lahti, J., 2019, *17th Biennial TAPPI European PLACE Conference 2019*. TAPPI Press, p. 419-427 9 p.

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

#### **Effect of polyolefin molecular structure on product properties in extrusion coating**

Suokas, E., 2019, *17th Biennial TAPPI European PLACE Conference 2019*. TAPPI Press, p. 89-98 10 p.

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

#### **M-Estimator Application in Real-Time Sensor Fusion for Smooth Position Feedback of Heavy-Duty Field Robots**

Liikanen, H., Aref, M. M. & Mattila, J., 2019, *Proceedings of the IEEE 2019 9th International Conference on Cybernetics and Intelligent Systems (CIS) and IEEE Conference on Robotics, Automation and Mechatronics (RAM)*. IEEE, p. 368-373 6 p. (IEEE International Conference on Cybernetics and Intelligent Systems).

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

#### **Design and Control of a Flexible Joint as a Hydraulic Series Elastic Actuator for Manipulation Applications**

Cao, X., Aref, M. M. & Mattila, J., 2019, *Proceedings of the IEEE 2019 9th International Conference on Cybernetics and Intelligent Systems and Robotics, Automation and Mechatronics, CIS and RAM 2019*. IEEE, p. 553-558 6 p. 9095773. (IEEE International Conference on Cybernetics and Intelligent Systems).

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

#### **Flux-Weakening Control for IPMSM Employing Model Order Reduction**

Far, M. F., Mustafa, B., Martin, F., Rasilo, P. & Belahcen, A., 24 Oct 2018, *2018 23rd International Conference on Electrical Machines, ICEM 2018*. IEEE, p. 1510-1516 7 p.

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

#### **Model Order Reduction of Bearingless Reluctance Motor Including Eccentricity**

Far, M. F., Mukherjee, V., Martin, F., Rasilo, P. & Belahcen, A., 24 Oct 2018, *2018 23rd International Conference on Electrical Machines, ICEM 2018*. IEEE, p. 2243-2249 7 p.

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

#### **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

#### **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

#### **Complete Odometry Estimation of a Vehicle Using Single Automotive Radar and a Gyroscope**

Ghabcheloo, R. & Siddiqui, S., 20 Aug 2018, *MED 2018 - 26th Mediterranean Conference on Control and Automation*. IEEE, p. 855-860 6 p. 8442474

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

#### **Digital image correlation study of the deformation and functioning of the human heart during open-heart surgery**

Soltani, A., Curtze, S., Lahti, J., Järvelä, K., Laurikka, J., Hokka, M. & Kuokkala, V. T., 2018, *Mechanics of Biological Systems, Materials and other topics in Experimental and Applied Mechanics - Proceedings of the 2017 Annual Conference on Experimental and Applied Mechanics*. Springer New York LLC, Vol. 4. p. 19-27 9 p. (Conference Proceedings of the Society for Experimental Mechanics).

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

#### **Effects of adiabatic heating estimated from tensile tests with continuous heating**

Vazquez Fernandez, N., Isakov, M., Hokka, M. & Kuokkala, V. T., 2018, *Dynamic Behavior of Materials - Proceedings of the 2017 Annual Conference on Experimental and Applied Mechanics*. Springer New York LLC, Vol. 1. p. 1-7 7 p. (Conference Proceedings of the Society for Experimental Mechanics).

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

#### **Knowledge-based artificial neural network (KB-ANN) in engineering: Associating functional architecture modeling, dimensional analysis and causal graphs to produce optimized topologies for KB-ANNs**

Coatanéa, E., Wu, D., Tsarkov, V., Gary Wang, G., Modi, S. & Jafarian, H., 2018, *38th Computers and Information in Engineering Conference*. The American Society of Mechanical Engineers ASME, Vol. 1B-2018. 12 p.

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

#### **A Reduced-Order Two-Degree-of-Freedom Composite Nonlinear Feedback Control for a Rotary DC Servo Motor**

Pyrhönen, V-P., Koivisto, H. & Viikko, M., 12 Dec 2017, *Proceedings of the 56th IEEE Conference on Decision and Control*. Melbourne, Australia, p. 2065-2071 7 p.

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

#### **Pneumatically actuated elastomeric device for simultaneous mechanobiological studies & live-cell fluorescent microscopy**

Kreutzer, J., Viehrig, M., Maki, A-J., Kallio, P., Rahikainen, R. & Hytönen, V., 3 Aug 2017, *International Conference on Manipulation, Automation and Robotics at Small Scales, MARSS 2017 - Proceedings*. IEEE

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

#### **Locomotion of light-driven soft microrobots through a hydrogel via local melting**

Palagi, S., Mark, A. G., Melde, K., Qiu, T., Zeng, H., Parmeggiani, C., Martella, D., Wiersma, D. S. & Fischer, P., 3 Aug 2017, *International Conference on Manipulation, Automation and Robotics at Small Scales, MARSS 2017 - Proceedings*. IEEE

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

#### **Redundant robotic manipulator path planning for real-time obstacle and self-collision avoidance**

Kivelä, T., Mattila, J., Puura, J. & Launis, S., 21 Jun 2017, *Advances in Service and Industrial Robotics: Proceedings of the 26th International Conference on Robotics in Alpe-Adria-Danube Region, RAAD 2017*. Ferraresi, C. & Quaglia, G. (eds.). Springer International Publishing, p. 208-216 9 p. (Mechanisms and Machine Science; vol. 49).

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

#### **Novel equipment to simulate hot air heat sealability of packaging materials**

Lahti, J., Kuusipalo, J. & Auvinen, S., 1 Jan 2017, *16th TAPPI European PLACE Conference 2017*. TAPPI Press, p. 237-248 12 p.

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

#### **Effect of air gap on the adhesion of PET layer on cardboard substrate in extrusion coating**

Suokas, E., 1 Jan 2017, *16th TAPPI European PLACE Conference 2017*. TAPPI Press, p. 529-544 16 p.

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

#### **Novel bio-based materials for active and intelligent packaging**

Lahti, J., Kamppuri, T. & Kuusipalo, J., 1 Jan 2017, *16th TAPPI European PLACE Conference 2017*. TAPPI Press, 1 p.  
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Tampere University of Technology, laboratory of materials science, paper converting and packaging technology Tampere, Finland**

Kuusipalo, J. & Lahti, J., 1 Jan 2017, *16th TAPPI European PLACE Conference 2017: Basel; Switzerland; 22 May 2017 through 24 May 2017*. TAPPI Press, Vol. May-2017. 1 p.  
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Structures and properties of laser-assisted cold-sprayed aluminum coatings**

Koivuluoto, H., Milanti, A., Bolelli, G., Latokartano, J., Marra, F., Pulci, G., Vihinen, J., Lusvarghi, L. & Vuoristo, P., 2017, *THERMEC 2016*. Trans Tech Publications Ltd, Vol. 879. p. 984-989 6 p. (Materials Science Forum; vol. 879).  
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Heat Transfer of Impinging Jet: Effect of Compressibility and Turbulent Kinetic Energy Production**

Mikkonen, A. & Karvinen, R., 2017, *IX International Conference on Computational Heat and Mass Transfer (ICCHMT 2016)*.  
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Dimension reduction and decomposition using causal graph and qualitative analysis for aircraft concept design optimization**

Wu, D., Coatanea, E. & Wang, G. G., 2017, *43rd Design Automation Conference*. The American Society of Mechanical Engineers ASME  
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Solar Panel Breakage During Heavy Rain Caused by Thermal Stress**

Mikkonen, A. & Karvinen, R., Oct 2016, *Engineered Transparency 2016: Glass in Architecture and Structural Engineering*. Wiley  
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Framework and feasibility study for pairwise comparison tool**

Ellman, A., Wendrich, R. & Tiainen, T., 21 Aug 2016, *Proceedings of the ASME 2016 Computers and Information in Engineering Conference IDETC/CIE 2016*. Charlotte, North Carolina: ASME, 7 p. DETC2016-59886  
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **DIC measurements of the human heart during cardiopulmonary bypass surgery**

Hokka, M., Mirow, N., Nagel, H., Vogt, S. & Kuokkala, V-T., 2016, *Conference Proceedings of the Society for Experimental Mechanics Series*. Springer New York LLC, Vol. 6. p. 51-59 9 p.  
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Nanoscale barrier coating on BOPP packaging film by ALD**

Lahti, J., 2016, *TAPPI PLACE Conference 2016: Exploring New Frontiers*. TAPPI Press, p. 493-505 13 p.  
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Development and numerical implementation of an anisotropic continuum damage model for concrete**

Hartikainen, J., Kolari, K. & Kouhia, R., 2016, *Advances in Fracture and Damage Mechanics XV*. Trans Tech Publications Ltd, p. 115-118 4 p. (Key Engineering Materials; vol. 713).  
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **End-plate connections in Bi-axial bending - Measurements**

Mäkinen, J., Fränti, K., Korhonen, M., Fillion, J. & Heinisuo, M., 2016, *13th International Aluminium Conference, Sustainability, Durability and Structural Advantages, : INALCO 2016; Naples; Italy; 21 September 2016 through 23 September 2016*. Mazzolani, F. M., Squillace, A., Faggiano, B. & Bellucci, F. (eds.). Trans Tech Publications Ltd, Vol. 710. p. 275-280 6 p. (Key Engineering Materials; vol. 710).

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

#### **Evaluating the electrode measurement sensitivity of subdermal electroencephalography electrodes**

Mendes, M. R., Subramaniam, N. P. & Wendel-Mitoraj, K., 1 Jul 2015, *International IEEE/EMBS Conference on Neural Engineering, NER*. IEEE COMPUTER SOCIETY PRESS, Vol. 2015-July. p. 1092-1095 4 p.

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

#### **Recurrence network analysis of wide band oscillations of local field potentials from the primary motor cortex reveals rich dynamics.**

Subramaniam, N. P., Hyttinen, J., Hatsopoulos, N. G. & Takahashi, K., 1 Jul 2015, *International IEEE/EMBS Conference on Neural Engineering, NER*. IEEE COMPUTER SOCIETY PRESS, p. 960-963 4 p.

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

#### **On the threshold based neuronal spike detection, and an objective criterion for setting the threshold**

Tanskanen, J. M. A., Kapucu, F. E. & Hyttinen, J. A. K., 1 Jul 2015, *International IEEE/EMBS Conference on Neural Engineering, NER*. IEEE COMPUTER SOCIETY PRESS, p. 1016-1019 4 p.

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

#### **High Temperature Tension HSB Device Based on Direct Electrical Heating**

Hokka, M., Östman, K., Rämö, J. & Kuokkala, V. T., 2015, *Dynamic Behavior of Materials, Volume 1: Proceedings of the 2014 Annual Conference on Experimental and Applied Mechanics*. Song, B., Casem, D. & Kimberley, J. (eds.). Springer, Vol. 65. p. 227-233 7 p. (Conference Proceedings of the Society for Experimental Mechanics Series).

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

#### **Measurements and Modeling of Frost Depth in Railway Tracks**

Pylkkänen, K., Nurmikolu, A., Guthrie, W. S. & Argyle, H. M., 2015, *Proceedings of the International Conference on Cold Regions Engineering: 16th International Conference on Cold Regions Engineering 2015*. American Society of Civil Engineers ASCE, p. 123-134 12 p.

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

#### **Roll-to-roll coating by liquid flame spray nanoparticle deposition**

Mäkelä, J. M., Haapanen, J., Aromaa, M., Teisala, H., Tuominen, M., Stepien, M., Saarinen, J. J., Toivakka, M. & Kuusipalo, J., 2015, *Materials Research Society Symposium Proceedings*. MATERIALS RESEARCH SOCIETY, Vol. 1747. p. 37-42 6 p.

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

#### **Branched thiophene oligomer/polymer bulk heterojunction organic solar cell**

Martinez, F., Neculqueo, G., Vasquez, S. O., Lemmetyinen, H., Efimov, A. & Vivo, P., 2015, *Materials Research Society Symposium Proceedings*. MATERIALS RESEARCH SOCIETY, Vol. 1737. p. 19-25 7 p.

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

#### **Improving the effect of nanoscale barrier coating on BOPP film properties: Influence of substrate contamination, web handling and pretreatments**

Lahti, J., Johansson, P., Lahtinen, K., Cameron, D. C. & Seppänen, T., 2014, *TAPPI PLACE Conference 2014*. TAPPI Press, Vol. 2. p. 1039-1061 23 p.

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

#### **Graph based representation and analyses for conceptual stages**

Coatanéa, E., Nonsiri, S., Christophe, F. & Mokammel, F., 2014, *34th Computers and Information in Engineering Conference*. The American Society of Mechanical Engineers ASME, Vol. 1A.

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

#### **An origami inspired reconfigurable spiral antenna**

Saintsing, C. D., Cook, B. S. & Tentzeris, M. M., 2014, *38th Mechanisms and Robotics Conference*. The American Society of Mechanical Engineers ASME, Vol. 5B.

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

#### **Towards an approach for evaluating the quality of requirements**

Mokammel, F., Coatanea, E., Christophe, F., Ba Khouya, M. & Medyna, G., 2013, *33rd Computers and Information in Engineering Conference*. American Society of Mechanical Engineers, Vol. 2 B. V02BT02A024

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

#### **Modeling of steels and steel surfaces using quantum mechanical first principles methods**

Alatalo, M., Pitkänen, H., Ropo, M., Kokko, K. & Vitos, L., 2013, *Physical and Numerical Simulation of Materials Processing VII*. Vol. 762. p. 445-450 6 p. (Materials Science Forum; vol. 762).

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

#### **Materials for electronics by thermal spraying**

Ronkainen, H., Kanerva, U., Varis, T., Ruusuvuori, K., Turunen, E., Peräntie, J., Putaala, J., Juuti, J. & Jantunen, H., 2013, *Physical and Numerical Simulation of Materials Processing VII*. Vol. 762. p. 451-456 6 p. (Materials Science Forum; vol. 762).

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

#### **Improving the effect of a nanoscale barrier coating on BOPP film properties by surface pretreatments**

Lahtinen, K., Lahti, J., Johansson, P., Seppänen, T. & Cameron, D. C., 2013, *14th European PLACE Conference 2013*. TAPPI Press, Vol. 1. p. 469-493 25 p.

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

#### **Effect of rotor pole-shoe construction on losses of inverter-fed synchronous motors**

Rasilo, P., Belahcen, A. & Arkkio, A., 2012, *Proceedings - 2012 20th International Conference on Electrical Machines, ICEM 2012*. p. 1282-1286 5 p.

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

#### **A system for real-time detection and tracking of vehicles from a single car-mounted camera**

Caraffi, C., Vojir, T., Trefný, J., Šochman, J. & Matas, J., 2012, *2012 15th International IEEE Conference on Intelligent Transportation Systems, ITSC 2012*. p. 975-982 8 p. 6338748

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

#### **Block copolymer self-assembly on ethylene glycol (EG) self-assembled monolayer (SAM) for nanofabrication**

Borah, D., Rasappa, S., Kosmala, B., Holmes, J. D. & Morris, M. A., 2012, *Nanoscale Materials Modification by Photon, Ion, and Electron Beams*. Vol. 1450. p. 8-13 6 p.

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

#### **Biomimetic hemo-compatible surfaces of polyurethane by grafting copolymer brushes of poly(ethylene glycol) and poly(phosphorylcholine methacrylate)**

Yang, D., Feng, Y., Behl, M., Lendlein, A., Zhao, H., Khan, M. & Guo, J., 2012, *Multifunctional Polymer-Based Materials*. Vol. 1403. p. 171-176 6 p.

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

#### **Evaluation of parts of a boat cabin based on exergy - Focusing on environmental and economic assessments**

Medyna, G., Coatanea, E. & Millet, D., 2011, *ASME 2011 International Mechanical Engineering Congress and Exposition, IMECE 2011*. PARTS A AND B ed. AMER SOC MECHANICAL ENGINEERS, Vol. 4. p. 1083-1092 10 p.

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

#### **Semantic analysis of function-solution duality**

Christophe, F., Ritola, T., Coatanea, E. & Bernard, A., 2011, *ASME 2011 International Mechanical Engineering Congress and Exposition, IMECE 2011*. Vol. 3. p. 611-619 9 p.

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

#### **Nanoparticle deposition on packaging materials by the liquid flame spray**

Teisala, H., Tuominen, M., Aromaa, M., Mäkelä, J. M., Stepien, M., Saarinen, J. J., Toivakka, M. & Kuusipalo, J., 2011, *13th European PLACE Conference 2011*. Vol. 1. 2 p.

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

**Effect of pre-treatments on barrier properties of layers applied by atomic layer deposition onto polymer-coated substrates**  
Vähä-Nissi, M., Hirvikorpi, T., Sievänen, J., Salo, E., Harlin, A., Johansson, P. & Kuusipalo, J., 2011, *13th European PLACE Conference 2011*. Vol. 1. p. 447 1 p.

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

**A framework for building behavioral models for design-stage failure identification using dimensional analysis**

Coatanéa, E., Ritola, T., Tumer, I. Y. & Jensen, D., 2010, *Proceedings of the ASME Design Engineering Technical Conference*. AMER SOC MECHANICAL ENGINEERS, Vol. 5. p. 591-601 11 p.

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

**The effects of corona and flame treatment: Part 2. PE-HD and PP coated papers**

Lahti, J., Tuominen, M., Penttinen, T., Räsänen, J. P. & Kuusipalo, J., 2009, *TAPPI Press - 12th European PLACE Conference 2009*. Vol. 1. p. 278-314 37 p.

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

**Measurement theory and dimensional analysis: Methodological impact on the comparison and evaluation process**

Coatanéa, E., Yannou, B., Honkala, S., Lajunen, A., Saarelainen, T. & Makkonen, P., 2008, *19th International Conference on Design Theory and Methodology and 1st International Conference on Micro and Nano Systems, presented at - 2007 ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, IDETC/CIE2007*. AMER SOC MECHANICAL ENGINEERS, p. 173-182 10 p.

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

**Statistical modeling of water vapor transmission rates for extrusion-coated papers**

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

**Enablers and barriers of smart data-based asset management services in industrial business networks**

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

**Towards dependable automation**

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

**Barkhausen Noise Probes and Modelling: A Review**

Santa-aho, S., Laitinen, A., Sorsa, A. & Vippola, M., 1 Dec 2019, In : *Journal of Nondestructive Evaluation*. 38, 4, 94.

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

**Waves in hyperbolic and double negative metamaterials including rogues and solitons**

Boardman, A. D., Alberucci, A., Assanto, G., Grimalsky, V. V., Kibler, B., McNiff, J., Nefedov, I. S., Rapoport, Y. G. & Valagiannopoulos, C. A., 9 Oct 2017, In : *Nanotechnology*. 28, 44, 444001.

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**Superhydrophobic Coatings on Cellulose-Based Materials: Fabrication, Properties, and Applications**

Teisala, H., Tuominen, M. & Kuusipalo, J., 1 Feb 2014, In : *Advanced Materials Interfaces*. 1, 1, p. 1-20 20 p., 1300026.

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**Estimation of the largest expected photovoltaic power ramp rates**

Lappalainen, K., Wang, G. C. & Kleissl, J., 15 Nov 2020, In : *Applied Energy*. 278, 13 p., 115636.

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**Tribocorrosion behaviour of tin bronze CuSn12 under a sliding motion in NaCl containing environment: Contact to inert vs. reactive counterbody**

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**Hot-box measurements to investigate the internal convection of highly insulated loose-fill insulation roof structures**

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

**Transparent microelectrode arrays fabricated by ion beam assisted deposition for neuronal cell in vitro recordings**

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**Circular dichroism in the second harmonic field evidenced by asymmetric Au coated GaAs nanowires**

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

**Syndecan-4 tunes cell mechanics by activating the kindlin-integrin-RhoA pathway**

Chronopoulos, A., Thorpe, S. D., Cortes, E., Lachowski, D., Rice, A. J., Mykuliak, V. V., Rog, T., Lee, D. A., Hytönen, V. P. & del Río Hernández, A. E., 2020, In : Nature Materials. 15 p.

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

**Viewpoint: Pavlovian Materials—Functional Biomimetics Inspired by Classical Conditioning**

Zhang, H., Zeng, H., Priimägi, A. & Ikkala, O., 2020, In : Advanced Materials. 9 p., 1906619.

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**Asymptotics and approximation of large systems of ordinary differential equations**

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**Avoiding the high friction peak in fretting contact**

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**Käyräviivaiset koordinaatit kontinuumimekaniikassa**

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**FEM-based wear simulation for fretting contacts**

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**Assessment of pitting corrosion in bare and passivated (wet scCO<sub>2</sub>-induced patination and chemical passivation) hot-dip galvanized steel samples with SVET, FTIR, and SEM (EDS)**

Saarimaa, V., Fuertes, N., Persson, D., Zavalis, T., Kaleva, A., Nikkanen, J-P., Levänen, E. & Heydari, G., 2020, In : Materials and Corrosion. 10 p.



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**An exploratory study on strengthening and thermal stability of magnetron sputtered W nanoparticles at the interface of Cu/Ni multilayer films**

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**Phosphate/oxyfluorophosphate glass crystallization and its impact on dissolution and cytotoxicity**

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**CFD modeling the diffusional losses of nanocluster-sized particles and condensing vapors in 90° bends of circular tubes**

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**Conductivity control via minimally invasive anti-Frenkel defects in a functional oxide**

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**Low temperature afterglow from SrAl<sub>2</sub>O<sub>4</sub>: Eu, Dy, B containing glass**

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**Probabilistic approach to physical object disentangling**

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**Potential of renewable fuel to reduce diesel exhaust particle emissions**

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**Prediction of contact condition and surface damage by simulating variable friction coefficient and wear**

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**Running-in in fretting, transition from near-stable friction regime to gross sliding**

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**Tribocorrosion behaviour of two low-alloy steel grades in simulated waste solution**

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### **Multiresonant High-Q Plasmonic Metasurfaces**

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### **Pneumatic unidirectional cell stretching device for mechanobiological studies of cardiomyocytes**

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### **Fluorine losses in Er<sup>3+</sup> oxyfluoride phosphate glasses and glass-ceramics**

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### **Elevated and cryogenic temperature micropillar compression of magnesium–niobium multilayer films**

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### **Characterization of cracks formed in large flat-on-flat fretting contact**

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### **Tailoring Second-Harmonic Emission from (111)-GaAs Nanoantennas**

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### **Bioactive glass ions induce efficient osteogenic differentiation of human adipose stem cells encapsulated in gellan gum and collagen type I hydrogels**

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#### **Assessing population vulnerability towards summer energy poverty: Case studies of Madrid and London**

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#### **The formation and characterization of fretting-induced degradation layers using quenched and tempered steel**

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#### **Kinetics and thermochemistry of the reaction of 3-methylpropargyl radical with molecular oxygen**

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#### **Evaluating retrofit options in a historical city center: Relevance of bio-based insulation and the need to consider complex urban form in decision-making**

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#### **An Artificial Nocturnal Flower via Humidity-Gated Photoactuation in Liquid Crystal Networks**

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#### **Behaviour of leaded tin bronze in simulated seawater in the absence and presence of tribological contact with alumina counterbody: Corrosion, wear and tribocorrosion**

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#### **Impact wear and mechanical behavior of steels at subzero temperatures**

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#### **Variable speed digital hydraulic transformer-based servo drive**

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#### **Dissolution, bioactivity and osteogenic properties of composites based on polymer and silicate or borosilicate bioactive glass**

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#### **Deposition of dry particles on a fin-and-tube heat exchanger by a coupled soft-sphere DEM and CFD**

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**Less Is More: Enhancement of Second-Harmonic Generation from Metasurfaces by Reduced Nanoparticle Density**  
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**Icephobicity of Slippery Liquid Infused Porous Surfaces under Multiple Freeze–Thaw and Ice Accretion–Detachment Cycles**  
Niemelä-Anttonen, H., Koivuluoto, H., Tuominen, M., Teisala, H., Juuti, P., Haapanen, J., Harra, J., Stenroos, C., Lahti, J., Kuusipalo, J., Mäkelä, J. M. & Vuoristo, P., Oct 2018, In : *Advanced Materials Interfaces*. 5, 20  
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**Solvothermal synthesis derived Co-Ga codoped ZnO diluted magnetic degenerated semiconductor nanocrystals**  
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**Enhanced resonant nonlinear absorption and optical limiting in Er<sup>3+</sup> ions doped multicomponent tellurite glasses**  
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**Hydrazone crosslinked hyaluronan-based hydrogels for therapeutic delivery of adipose stem cells to treat corneal defects**  
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**Generic platform for manufacturing execution system functions in knowledge-driven manufacturing systems**  
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**Analysis of common rail pressure signal of dual-fuel large industrial engine for identification of injection duration of pilot diesel injectors**

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**Conjugated Heat Transfer Simulation of a Fin-and-Tube Heat Exchanger**

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**Light Robots: Bridging the Gap between Microrobotics and Photomechanics in Soft Materials**

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**Fin-and-tube heat exchanger enhancement with a combined herringbone and vortex generator design**

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**Erosive-abrasive wear behavior of carbide-free bainitic and boron steels compared in simulated field conditions**

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**Ultrafast Processing of Hierarchical Nanotexture for a Transparent Superamphiphobic Coating with Extremely Low Roll-Off Angle and High Impalement Pressure**

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### **Fe<sub>2</sub>O<sub>3</sub>-TiO<sub>2</sub> Nano-heterostructure Photoanodes for Highly Efficient Solar Water Oxidation**

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**Co-electrospun blends of PU and PEG as potential biocompatible scaffolds for small-diameter vascular tissue engineering**  
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**Implementation of a direct procedure for critical point computations using preconditioned iterative solvers**  
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Research output: Contribution to journal › Article › Scientific › peer-review

**Highly conducting polychloroprene composites based on multi-walled carbon nanotubes and 1-butyl 3-methyl imidazolium bis(trifluoromethylsulphonyl)imide**  
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**Redox-active, organometallic surface-relief gratings from azobenzene-containing polyferrocenylsilane block copolymers**  
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**Development of expanded graphite filled natural rubber vulcanizates in presence and absence of carbon black: Mechanical, thermal and morphological properties**

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**Cost optimal and nearly zero (nZEB) energy performance calculations for residential buildings with REHVA definition for nZEB national implementation**

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**Self-alignment of RFID dies on four-pad patterns with water droplet for sparse self-assembly**

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**Defined-size DNA triple crossover construct for molecular electronics: Modification, positioning and conductance properties**

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**Optimised selection of new protective coatings for biofuel boiler applications**

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**Hexaferrite/polyethylene Composite coatings prepared with flame spraying**

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**The effect of phosphorous and arsenic on the fracture behaviour of a 2,25% Cr-1% Mo Steel**

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