

**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

**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

**A comparison of five optical surface topography measurement methods**

Mettänen, M. & Hirn, U., 1 Jan 2015, In : TAPPI Journal. 14, 1, p. 27-38 12 p.

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

**A comparison of relative displacement fields between numerical predictions and experimental results in fretting contact**

Juoksukangas, J., Lehtovaara, A. & Mäntylä, A., 1 Oct 2016, In : Proceedings of the institution of Mechanical Engineers Part J: Journal of Engineering Tribology. 230, 10, p. 1273-1287 15 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

**A fractional representation approach to the robust regulation problem for SISO systems**

Laakkonen, P. & Quadrat, A., 1 May 2017, In : Systems and Control Letters. 103, p. 32-37 6 p.

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

**Analysing traffic fluency from bus data**

Syrjärinne, P., Nummenmaa, J., Thanisch, P., Kerminen, R. & Hakulinen, E., 1 Aug 2015, In : IET Intelligent Transport Systems. 9, 6, p. 566-572 7 p.

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

**Analysis of common rail pressure signal of dual-fuel large industrial engine for identification of injection duration of pilot diesel injectors**

Krogerus, T., Hyvönen, M. & Huhtala, K., Mar 2018, In : Fuel. 216, p. 1-9

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

**Analysis of thermo-active pile structures and their performance under groundwater flow conditions**

Gashti, E. H. N., Malaska, M. & Kujala, K., 11 Aug 2015, In : Energy and Buildings. 105, p. 1-8 8 p.

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

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

Wani, O. M., Verpaalen, R., Zeng, H., Priimagi, A. & Schenning, A. P. H. J., Jan 2019, In : Advanced Materials. 31, 2, 1805985.

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

**A near-infrared optoelectronic approach to detection of road conditions**

Colace, L., Santoni, F. & Assanto, G., May 2013, In : Optics and Lasers in Engineering. 51, 5, p. 633-636 4 p.

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

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

Schoeppner, R. L., Mohanty, G., Polyakov, M. N., Petho, L., Maeder, X. & Michler, J., 2020, In : Materials and Design. 195, 9 p., 108907.

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

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

Sanchez-Guevara, C., Núñez Peiró, M., Taylor, J., Mavrogianni, A. & Neila González, J., 1 May 2019, In : Energy and Buildings. 190, p. 132-143 12 p.

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

**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.

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

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

Paunonen, L. & Seifert, D., 2020, In : Systems and Control Letters. 140, 9 p., 104703.

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

**A TOpti simulation for finding fuel saving by optimising propulsion control and power management**

Jaurola, M., Hedin, A., Tikkanen, S. & Huhtala, K., 2019, In : Journal of Marine Science and Technology (Japan).

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

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

Juoksukangas, J., Hintikka, J., Lehtovaara, A., Mäntylä, A., Vaara, J. & Frondelius, T., 2020, In : Rakenteiden Mekaniikka. 53, 1, p. 12-19 8 p.

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

**Barkhausen noise response of three different welded duplex stainless steels**

Lindgren, M., Santa-aho, S. & Vippola, M., 1 Sep 2016, In : Insight. 58, 9, p. 480-486 7 p.

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

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

Huttunen-Saarivirta, E., Isotahdon, E., Metsäjoki, J., Salminen, T., Ronkainen, H. & Carpén, L., 2019, In : Tribology International. 129, p. 257-271 15 p.

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

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

Vuornos, K., Ojansivu, M., Koivisto, J. T., Häkkänen, H., Belay, B., Montonen, T., Huhtala, H., Kääriäinen, M., Hupa, L., Kellomäki, M., Hyttinen, J., Ihalainen, J. A. & Miettinen, S., 1 Jun 2019, In : Materials Science and Engineering C. 99, p. 905-918 14 p.

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

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

Olin, M. & Dal Maso, M., 2020, In : Journal of Aerosol Science. 150, 10 p., 105618.

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

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

Juoksukangas, J., Nurmi, V., Hintikka, J., Vippola, M., Lehtovaara, A., Mäntylä, A., Vaara, J. & Frondelius, T., Jul 2019, In : International Journal of Fatigue. 124, p. 361-370 10 p.

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

**Characterization of the microstructure and corrosion performance of Ce-alloyed Nd-Fe-B magnets**

Isotahdon, E., Huttunen-Saarivirta, E. & Kuokkala, V., Jan 2017, In : Journal of Alloys and Compounds. 692, p. 190-197

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

**Chemically tailored dielectric-to-metal transition for the design of metamaterials from nanoimprinted colloidal nanocrystals**  
Fafarman, A. T., Hong, S. H., Caglayan, H., Ye, X., Diroll, B. T., Paik, T., Engheta, N., Murray, C. B. & Kagan, C. R., 13 Feb 2013, In : Nano Letters. 13, 2, p. 350-357 8 p.

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

**Chemical synthesis of WC-Co from water-soluble precursors: The effect of carbon and cobalt additions to WC synthesis**  
Kanerva, U., Karhu, M., Lagerbom, J., Kronlöf, A., Honkanen, M., Turunen, E. & Laitinen, T., 1 Apr 2016, In : International Journal of Refractory Metals and Hard Materials. 56, p. 69-75 7 p.

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

**Chip-by-chip configurable interconnection using digital printing techniques**

Mashayekhi, M., Winchester, L., Laurila, M-M., Mäntysalo, M., Ogier, S., Terés, L. & Carrabina, J., 6 Mar 2017, In : Journal of Micromechanics and Microengineering. 27, 4, 045009.

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

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

Belardini, A., Leahu, G., Petronijevic, E., Hakkarainen, T., Koivusalo, E., Piton, M. R., Talmila, S., Guina, M. & Sibilica, C., 1 Feb 2020, In : Micromachines. 11, 2, p. 1-8 8 p.

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

**Co-electrospun blends of PU and PEG as potential biocompatible scaffolds for small-diameter vascular tissue engineering**

Wang, H., Feng, Y., Fang, Z., Yuan, W. & Khan, M., 1 Dec 2012, In : Materials Science and Engineering C: Materials for Biological Applications. 32, 8, p. 2306-2315 10 p.

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

**Comparative environmental impacts of additive and subtractive manufacturing technologies**

Paris, H., Mokhtarian, H., Coatanéa, E., Museau, M. & Ituarte, I. F., 2016, In : CIRP Annals: Manufacturing Technology. 65, 1, p. 29-32

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

**Computational design of a novel medium-carbon, low-alloy steel microalloyed with niobium**

Javaheri, V., Nyysönen, T., Grande, B. & Porter, D., Jun 2018, In : Journal of Materials Engineering and Performance. 27, 6, p. 2978-2992 15 p.

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

**Concepts, methods and tools for individualized production**

Lanz, M. & Tuokko, R., 1 Apr 2017, In : PRODUCTION ENGINEERING. 11, 2, p. 205-212 8 p.

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

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

Evans, D. M., Holstad, T. S., Mosberg, A. B., Småbråten, D. R., Vullum, P. E., Dadlani, A. L., Shapovalov, K., Yan, Z., Bourret, E., Gao, D., Akola, J., Torgersen, J., van Helvoort, A. T. J., Selbach, S. M. & Meier, D., 2020, In : Nature Materials. 7 p.

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

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

Väläkangas, T. & Karvinen, R., 2018, In : Heat Transfer Engineering. 39, 13-14, p. 1192-1200 9 p.

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

**Consideration of energy consumption, energy costs, and space occupancy in Finnish daycare centres and school buildings**

Sekki, T., Andelin, M., Airaksinen, M. & Saari, A., 1 Oct 2016, In : Energy and Buildings. 129, p. 199-206 8 p.

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

**Controlling liquid spreading using microfabricated undercut edges**

Liimatainen, V., Sariola, V. & Zhou, Q., 24 Apr 2013, In : Advanced Materials. 25, 16, p. 2275-2278 4 p.

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

**Corrosion mechanisms of sintered Nd-Fe-B magnets in the presence of water as vapour, pressurised vapour and liquid**  
Isotahdon, E., Huttunen-Saarivirta, E., Heinonen, S., Kuokkala, V. T. & Paju, M., 25 Mar 2015, In : Journal of Alloys and Compounds. 626, p. 349-359 11 p.

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

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

Kurnitski, J., Saari, A., Kalamees, T., Vuolle, M., Niemelä, J. & Tark, T., Nov 2011, In : Energy and Buildings. 43, 11, p. 3279-3288 10 p.

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

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

Linko, V., Leppiniemi, J., Paasonen, S. T., Hytönen, V. P. & Jussi Toppari, J., 8 Jul 2011, In : Nanotechnology. 22, 27, 275610.

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

**Democratizing composites manufacturing -inexpensive tooling empowers new players**

Antin, K. N. & Pärnänen, T., 1 Jul 2017, In : SAMPE Journal. 53, 4, p. 6-10 5 p.

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

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

Välkangas, T., Hærvig, J., Kuuluvainen, H., Dal Maso, M., Peltonen, P. & Vuorinen, V., 2019, In : International Journal of Heat and Mass Transfer. 19 p., 119046.

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

**Detection beyond Debye's length with an electrolyte-gated organic field-effect transistor**

Palazzo, G., De Tullio, D., Magliulo, M., Mallardi, A., Intranuovo, F., Mulla, M. Y., Favia, P., Vikholm-Lundin, I. & Torsi, L., 2015, In : Advanced Materials. 27, 5, p. 911-916 6 p.

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

**Detection of gaseous species during KCl-induced high-temperature corrosion by the means of CPFAAS and CI-API-TOF**

Lehmusto, J., Olin, M., Viljanen, J., Kalliokoski, J., Mylläri, F., Toivonen, J., Dal Maso, M. & Hupa, L., 30 Aug 2019, In : Materials and Corrosion. 10 p.

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

**Development of expanded graphite filled natural rubber vulcanizates in presence and absence of carbon black: Mechanical, thermal and morphological properties**

Malas, A., Das, C. K., Das, A. & Heinrich, G., 2012, In : Materials and Design. 39, p. 410-417 8 p.

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

**Differential basal-to-apical accessibility of lamin A/C epitopes in the nuclear lamina regulated by changes in cytoskeletal tension**

Ihalainen, T. O., Aires, L., Herzog, F. A., Schwartlander, R., Moeller, J. & Vogel, V., 1 Dec 2015, In : Nature Materials. 14, 12, p. 1252-1261 10 p.

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

**Digital hydraulic multi-pressure actuator – the concept, simulation study and first experimental results**

Huova, M., Aalto, A., Linjama, M., Huhtala, K., Lantela, T. & Pietola, M., 2017, In : International Journal of Fluid Power. 18, 3, p. 141-152 12 p.

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

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

Houaoui, A., Lyyra, I., Agniel, R., Pauthe, E., Massera, J. & Boissière, M., 2019, In : Materials Science and Engineering C. 107, 110340.

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

#### **Divertor remote handling for DEMO: Concept design and preliminary FMECA studies**

Carfora, D., Di Gironimo, G., Järvenpää, J., Huhtala, K., Määttä, T. & Siuko, M., 9 Jul 2015, In : Fusion Engineering and Design. 98-99, p. 1437-1441 5 p.

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

#### **Do properties of bioactive glasses exhibit mixed alkali behavior?**

Wang, X., Fagerlund, S., Massera, J., Södergård, B. & Hupa, L., 2017, In : Journal of Materials Science. 52, 15, p. 8986–8997 12 p.

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

#### **Dynamic speckle analysis with smoothed intensity-based activity maps**

Stoykova, E., Berberova, N., Kim, Y., Nazarova, D., Ivanov, B., Gotchev, A., Hong, J. & Kang, H., 1 Jun 2017, In : Optics and Lasers in Engineering. 93, p. 55-65 11 p.

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

#### **Effect of energy measures on the values of energy efficiency indicators in Finnish daycare and school buildings**

Sekki, T., Airaksinen, M. & Saari, A., 15 Mar 2017, In : Energy and Buildings. 139, p. 124-132 9 p.

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

#### **Effect of finish rolling and quench stop temperatures on impact-abrasive wear resistance of 0.35 % carbon direct-quenched steel**

Haiko, O., Miettunen, I., Porter, D., Ojala, N., Ratia, V., Heino, V. & Kemppainen, A., 2017, In : Tribologia. 35, 1-2, p. 5-21 17 p.

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

#### **Effect of Multiple Impacts on the Deformation of Wear-Resistant Steels**

Ratia, V., Rojacz, H., Terva, J., Valtonen, K., Badisch, E. & Kuokkala, V. T., 21 Jan 2015, In : Tribology Letters. 57, 2, 15.

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

#### **Effects of added glazing on Balcony indoor temperatures: Field measurements**

Hilliaho, K., Köliö, A., Pakkala, T., Lahdensivu, J. & Vinha, J., 2016, In : Energy and Buildings. 128, p. 458-472 15 p.

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

#### **Effects of strain rate and confining pressure on the compressive behavior of Kuru granite**

Hokka, M., Black, J., Tklich, D., Fourmeau, M., Kane, A., Hoang, N. H., Li, C. C., Chen, W. W. & Kuokkala, V-T., 1 May 2016, In : International Journal of Impact Engineering. 91, p. 183-193 11 p.

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

#### **Electrolyte-gated organic field-effect transistor sensors based on supported biotinylated phospholipid bilayer**

Magliulo, M., Mallardi, A., Mulla, M. Y., Cotrone, S., Pistillo, B. R., Favia, P., Vikholm-Lundin, I., Palazzo, G. & Torsi, L., 11 Apr 2013, In : Advanced Materials. 25, 14, p. 2090-2094 5 p.

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

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

Thomas, K., Mohanty, G., Wehrs, J., Taylor, A. A., Pathak, S., Casari, D., Schwiedrzik, J., Mara, N., Spolenak, R. & Michler, J., 15 Aug 2019, In : Journal of Materials Science. 54, 15, p. 10884-10901 18 p.

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

#### **Employing Knowledge on Causal Relationship to Assist Multidisciplinary Design Optimization**

Wu, D., Coatanea, E. & Wang, G. G., Apr 2019, In : Journal of Mechanical Design, Transactions of the ASME. 141, 4, 041402.

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

**Enhanced multiaxial fatigue criterion that considers stress gradient effects**

Ottosen, N. S., Ristinmaa, M. & Kouhia, R., 1 Nov 2018, In : International Journal of Fatigue. 116, p. 128-139 12 p.

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

**Enhanced resonant nonlinear absorption and optical limiting in Er<sup>3+</sup> ions doped multicomponent tellurite glasses**

Sajna, M. S., Perumbilavil, S., Prakashan, V. P., Sanu, M. S., Joseph, C., Biju, P. R. & Unnikrishnan, N. V., 1 Aug 2018, In : Materials Research Bulletin. 104, p. 227-235 9 p.

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

**Erbium-doped borosilicate glasses containing various amounts of P2O5 and Al2O3: Influence of the silica content on the structure and thermal, physical, optical and luminescence properties**

Bourhis, K., Massera, J., Petit, L., Koponen, J., Fargues, A., Cardinal, T., Hupa, L., Hupa, M., Dussauze, M., Rodriguez, V. & Ferraris, M., 1 Oct 2015, In : Materials Research Bulletin. 70, p. 47-54 8 p.

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

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

Vuorinen, E., Heino, V., Ojala, N., Haiko, O. & Hedayati, A., 2018, In : Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology. 232, 1, p. 3-13 11 p.

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

**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.

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

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

Claude, S., Ginetet, S., Bonhomme, M., Escadeillas, G., Taylor, J., Marincioni, V., Korolija, I. & Altamirano, H., 1 Jan 2019, In : Energy and Buildings. 182, p. 196-204 9 p.

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

**Experimental and numerical investigation of fretting fatigue behavior in bolted joints**

Juoksukangas, J., Lehtovaara, A. & Mäntylä, A., 1 Nov 2016, In : Tribology International. 103, p. 440-448 9 p.

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

**Experimental and numerical study of wall layer development in a tribocharged fluidized bed**

Sippola, P., Kolehmainen, J., Ozel, A., Liu, X., Saarenrinne, P. & Sundaresan, S., 25 Aug 2018, In : Journal of Fluid Mechanics. 849, p. 860-884 25 p.

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

**Experimental study on the behavior of wear resistant steels under high velocity single particle impacts**

Lindroos, M., Apostol, M., Kuokkala, V. T., Laukkanen, A., Valtonen, K., Holmberg, K. & Oja, O., 2015, In : International Journal of Impact Engineering. 78, p. 114-127 14 p.

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

**Fabrication of a sub-10 nm silicon nanowire based ethanol sensor using block copolymer lithography**

Rasappa, S., Borah, D., Faulkner, C. C., Lutz, T., Shaw, M. T., Holmes, J. D. & Morris, M. A., 15 Feb 2013, In : Nanotechnology. 24, 6, 065503.

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

**Feed-hopper level estimation and control in cone crushers**

Itävuo, P., Hulthén, E. & Vilkkö, M., 15 Aug 2017, In : Minerals Engineering. 110, p. 82-95 14 p.

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

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

Mäntylä, A., Juoksukangas, J., Hintikka, J., Frondelius, T. & Lehtovaara, A., 2020, In : Rakenteiden Mekaniikka. 53, 1, p. 20-27 8 p.

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

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

Bañreca, D., Carraro, G., Gasparotto, A., Maccato, C., Warwick, M. E. A., Kaunisto, K., Sada, C., Turner, S., Gönüllü, Y., Ruoko, T-P., Borgese, L., Bontempi, E., Van Tendeloo, G., Lemmetyinen, H. & Mathur, S., 2015, In : Advanced Materials Interfaces. 2, 17

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

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

Välikangas, T., Singh, S., Sørensen, K. & Condra, T., 2018, In : International Journal of Heat and Mass Transfer. 118, p. 602-616 15 p.

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

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

Szczodra, A., Mardoukhi, A., Hokka, M., Boetti, N. G. & Petit, L., 15 Aug 2019, In : Journal of Alloys and Compounds. 797, p. 797-803 7 p.

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

#### **Fretting-induced friction and wear in large flat-on-flat contact with quenched and tempered steel**

Hintikka, J., Lehtovaara, A. & Mäntylä, A., 2 Jul 2015, In : Tribology International. 92, p. 191-202 12 p.

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

#### **Generic platform for manufacturing execution system functions in knowledge-driven manufacturing systems**

Mohammed, W. M., Ramis Ferrer, B., Iarovyj, S., Negri, E., Fumagalli, L., Lobov, A. & Martinez Lastra, J. L., 4 Mar 2018, In : International Journal of Computer Integrated Manufacturing. p. 1-13 13 p.

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

#### **Global energy consumption due to friction and wear in the mining industry**

Holmberg, K., Kivikytö-Reponen, P., Härkisaari, P., Valtonen, K. & Erdemir, A., 1 Nov 2017, In : Tribology International. 115, p. 116-139 24 p.

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

#### **Graphoepitaxial Directed Self-Assembly of Polystyrene-Block-Polydimethylsiloxane Block Copolymer on Substrates Functionalized with Hexamethyldisilazane to Fabricate Nanoscale Silicon Patterns**

Borah, D., Rasappa, S., Senthamaraiannan, R., Holmes, J. D. & Morris, M. A., 1 Jun 2014, In : Advanced Materials Interfaces. 1, 3, 1300102.

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

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

Lisjak, D., Lintunen, P., Hujanen, A., Varis, T., Bolelli, G., Lusvardi, L., Jagodič, M. & Drogenik, M., 15 Feb 2011, In : Materials Letters. 65, 3, p. 534-536 3 p.

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**

Subramaniam, K., Das, A. & Heinrich, G., Jul 2012, In : KGK: KAUTSCHUK GUMMI KUNSTSTOFFE. 65, 7-8, p. 44-46 3 p.

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

#### **High-order lattice-Boltzmann**

Philippi, P. C., Siebert, D. N., Hegele, L. A. & Mattila, K. K., 1 Jun 2016, In : Journal of the Brazilian Society of Mechanical Sciences and Engineering. 38, 5, p. 1401-1419 19 p.

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

### **High performance natural rubber composites with a hierarchical reinforcement structure of carbon nanotube modified natural fibers**

Tzounis, L., Debnath, S., Rooj, S., Fischer, D., Mäder, E., Das, A., Stamm, M. & Heinrich, G., 2014, In : *Materials and Design*. 58, p. 1-11 11 p.

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

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

Kivioja, H. & Vinha, J., 1 Jun 2020, In : *Energy and Buildings*. 216, 10 p., 109934.

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

### **Hydrazone crosslinked hyaluronan-based hydrogels for therapeutic delivery of adipose stem cells to treat corneal defects**

Koivusalo, L., Karvinen, J., Sorsa, E., Jönkkäri, I., Väliäho, J., Kallio, P., Ilmarinen, T., Miettinen, S., Skottman, H. & Kellomäki, M., Apr 2018, In : *Materials Science and Engineering C*. 85, p. 68-78 11 p.

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

### **Hyperspectral phase imaging based on denoising in complex-valued eigensubspace**

Shevkunov, I., Katkovnik, V., Claus, D., Pedrini, G., Petrov, N. V. & Egiazarian, K., 1 Apr 2020, In : *Optics and Lasers in Engineering*. 127, 10 p., 105973.

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

### **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

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

### **ILC1 drive intestinal epithelial and matrix remodelling**

Jowett, G. M., Norman, M. D. A., Yu, T. T. L., Rosell Arévalo, P., Hoogland, D., Lust, S. T., Read, E., Hamrud, E., Walters, N. J., Niazi, U., Chung, M. W. H., Marciano, D., Omer, O. S., Zabinski, T., Danovi, D., Lord, G. M., Hilborn, J., Evans, N. D., Dreiss, C. A., Bozec, L., Oommen, O. P., Lorenz, C. D., da Silva, R. M. P., Neves, J. F. & Gentleman, E., 2020, In : *Nature Materials*. 22 p.

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

### **Impact of building usage and occupancy on energy consumption in Finnish daycare and school buildings**

Sekki, T., Airaksinen, M. & Saari, A., 18 Aug 2015, In : *Energy and Buildings*. 105, p. 247-257 11 p.

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

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

Valtonen, K., Ratia, V., Ramakrishnan, K. R., Apostol, M., Terva, J. & Kuokkala, V-T., 2019, In : *Tribology International*. 129, p. 476-493 18 p.

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

### **Implementation of a direct procedure for critical point computations using preconditioned iterative solvers**

Kouhia, R., Tüma, M., Mäkinen, J., Fedoroff, A. & Marjamäki, H., Oct 2012, In : *Computers & Structures*. 108-109, p. 110-117 8 p.

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

### **Improved dimensional stability with bioactive glass fibre skeleton in poly(lactide-co-glycolide) porous scaffolds for tissue engineering**

Haaparanta, A-M., Uppstu, P., Hannula, M., Ellä, V., Rosling, A. & Kellomäki, M., 20 Jul 2015, In : *Materials Science and Engineering C: Materials for Biological Applications*. 56, p. 457-466 10 p., 5584.

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

### **Improving the thermal performance of concrete-sandwich envelopes in relation to the moisture behaviour of building structures in boreal conditions**



Fedorik, F., Malaska, M., Hannila, R. & Haapala, A., 15 Nov 2015, In : Energy and Buildings. 107, p. 226-233 8 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Improving the toughness of thermally sprayed Cr<sub>3</sub>C<sub>2</sub>-NiCr hardmetal coatings by laser post-treatment**

Janka, L., Norpoth, J., Eicher, S., Rodríguez Ripoll, M. & Vuoristo, P., 15 May 2016, In : Materials and Design. 98, p. 135-142 8 p.

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

**Influence of specimen type and reinforcement on measured tension-tension fatigue life of unidirectional GFRP laminates**

Korkiakoski, S., Brøndsted, P., Sarlin, E. & Saarela, O., 1 Apr 2016, In : International Journal of Fatigue. 85, p. 114-129 16 p.

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

**Investigating the kinetics and biofuel properties of *Alstonia congensis* and *Ceiba pentandra* via torrefaction**

Oluoti, K., Doddapaneni, T. R. K. C. & Richards, T., 1 May 2018, In : Energy. 150, p. 134-141 8 p.

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

**Investigation on positioning control strategy and switching optimization of an equal coded digital valve system**

Gao, Q., Linjama, M., Paloniitty, M. & Zhu, Y., 2019, In : Proceedings of the Institution of Mechanical Engineers. Part I: Journal of Systems and Control Engineering.

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

**Käyräviivaiset koordinaattitot kontinuumimekaniikassa**

Holopainen, S., 2020, In : Rakenteiden Mekaniikka. 53, 2, p. 53-66 14 p.

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

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

Pekkanen, T. T., Timonen, R. S., Lendvay, G., Rissanen, M. P. & Eskola, A. J., 1 Jan 2019, In : PROCEEDINGS OF THE COMBUSTION INSTITUTE. 37, 1, p. 299-306 8 p.

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

**Kirigami-Based Light-Induced Shape-Morphing and Locomotion**

Cheng, Y. C., Lu, H. C., Lee, X., Zeng, H. & Priimagi, A., 2019, In : Advanced Materials. 1906233.

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

**Less Is More: Enhancement of Second-Harmonic Generation from Metasurfaces by Reduced Nanoparticle Density**

Czaplicki, R., Kiviniemi, A., Huttunen, M. J., Zang, X., Stolt, T., Vartiainen, I., Butet, J., Kuittinen, M., Martin, O. J. F. & Kauranen, M., 12 Dec 2018, In : Nano Letters. 18, 12, p. 7709-7714 6 p.

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

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

Zeng, H., Wasylczyk, P., Wiersma, D. S. & Priimagi, A., 2018, In : Advanced Materials. 30, 24, 1703554.

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

**Lithography-free oxide patterns as templates for self-catalyzed growth of highly uniform GaAs nanowires on Si(111)**

Hakkarainen, T. V., Schramm, A., Mäkelä, J., Laukkanen, P. & Guina, M., 18 Jul 2015, In : Nanotechnology. 26, 27, 275301.

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

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

Vitola, V., Lahti, V., Bite, I., Spustaka, A., Millers, D., Lastusaari, M., Petit, L. & Smits, K., 2020, In : Scripta Materialia. 190, p. 86-90 5 p.

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

### **Luminescence of Er<sup>3+</sup> doped oxyfluoride phosphate glasses and glass-ceramics**

Nommeots-Nomm, A., Boetti, N. G., Salminen, T., Massera, J., Hokka, M. & Petit, L., 30 Jun 2018, In : Journal of Alloys and Compounds. 751, p. 224-230 7 p.

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

### **Mass balance control of crushing circuits**

Itävuo, P., Hulthén, E., Yahyaei, M. & Vilkkö, M., May 2019, In : Minerals Engineering. 135, p. 37-47 11 p.

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

### **Measured energy consumption of educational buildings in a Finnish city**

Sekki, T., Airaksinen, M. & Saari, A., 1 Jan 2015, In : Energy and Buildings. 87, p. 105-115 11 p.

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

### **Mechanically Switchable Elastomeric Microfibrillar Adhesive Surfaces for Transfer Printing**

Sariola, V. & Sitti, M., 1 Jul 2014, In : Advanced Materials Interfaces. 1, 4, 1300159.

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

### **Multicriteria selection in concept design of a divertor remote maintenance port in the EU DEMO reactor using an AHP participative approach**

Carfora, D., Gironimo, G. D., Esposito, G., Huhtala, K., Määttä, T., Mäkinen, H., Micciché, G. & Mozzillo, R., 15 Nov 2016, In : Fusion Engineering and Design. 112, p. 324-331 8 p.

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

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

Reshef, O., Saad-Bin-Alam, M., Huttunen, M. J., Carlow, G., Sullivan, B. T., Ménard, J. M., Dolgaleva, K. & Boyd, R. W., 11 Sep 2019, In : Nano Letters. 19, 9, p. 6429-6434 6 p.

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

### **Multi-sensor next-best-view planning as matroid-constrained submodular maximization**

Lauri, M., Pajarinen, J., Peters, J. & Frintrop, S., 2020, In : IEEE Robotics and Automation Letters. 5, 4, p. 5323-5330 8 p.

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

### **Naturally occurring amino acids: A suitable substitute of N-N'-di-phenyl guanidine (DPG) in silica tyre formulation?**

Debnath, S. C., Das, A., Basu, D. & Heinrich, G., Jan 2013, In : K GK: KAUTSCHUK GUMMI KUNSTSTOFFE. 66, 1-2, p. 25-31 7 p.

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

### **New design of textile light diffusers for photodynamic therapy**

Cochrane, C., Mordon, S. R., Lesage, J. C. & Koncar, V., 1 Apr 2013, In : Materials Science and Engineering C: Materials for Biological Applications. 33, 3, p. 1170-1175 6 p.

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

### **Noncovalent functionalization of reduced graphene oxide with pluronic F127 and its nanocomposites with gum arabic**

Layek, R. K., Uddin, M. E., Kim, N. H., Tak Lau, A. K. & Lee, J. H., 1 Nov 2017, In : Composites Part B : Engineering. 128, p. 155-163 9 p.

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

### **Nonlinear model predictive energy management of hydrostatic drive transmissions**

Backas, J. & Ghabcheloo, R., 1 Mar 2019, In : Proceedings of the Institution of Mechanical Engineers. Part I: Journal of Systems and Control Engineering. 233, 3, p. 335-347

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

### **Normal displacements in non-Coulomb friction conditions during fretting**

Hintikka, J., Lehtovaara, A. & Mäntylä, A., 2016, In : Tribology International. 94, p. 633-639

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

**Observation of Coexistence of Yu-Shiba-Rusinov States and Spin-Flip Excitations**

Kezilebieke, S., Žitko, R., Dvorak, M., Ojanen, T. & Liljeroth, P., 10 Jul 2019, In : Nano Letters. 19, 7, p. 4614-4619 6 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**On the effect of deformation twinning and microstructure to strain hardening of high manganese austenitic steel 3D microstructure aggregates at large strains**

Lindroos, M., Laukkanen, A., Cailletaud, G. & Kuokkala, V-T., 2017, In : International Journal of Solids and Structures. 125, p. 68-76  
Research output: Contribution to journal > Article > Scientific > peer-review

**Optical interference lithography using azobenzene-functionalized polymers for micro-and nanopatterning of silicon**

Kravchenko, A., Shevchenko, A., Ovchinnikov, V., Priimagi, A. & Kaivola, M., 22 Sep 2011, In : Advanced Materials. 23, 36, p. 4174-4177 4 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

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

Tuurna, S., Varis, T., Penttilä, K., Ruusuvoori, K., Holmström, S. & Yli-Olli, S., Jul 2011, In : Materials and Corrosion-Werkstoffe und Korrosion. 62, 7, p. 642-649 8 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Optimizing ammonium adsorption on natural zeolite for wastewaters with high loads of ammonium and solids**

Taddeo, R., Prajapati, S. & Lepistö, R., 2017, In : Journal of Porous Materials. 24, 6, p. 1545-1554 10 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Persistent luminescent borosilicate glasses using direct particles doping method**

Roldán Del Cerro, P., Salminen, T., Lastusaari, M. & Petit, L., 1 Jul 2018, In : Scripta Materialia. 151, p. 38-41 4 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

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

Nommeots-Nomm, A., Houaoui, A., Pradeepan Packiyathanar, A., Chen, X., Hokka, M., Hill, R., Pauthe, E., Petit, L., Boissière, M. & Massera, J., 2020, In : Materials Science and Engineering C. 117, 15 p., 111269.  
Research output: Contribution to journal > Article > Scientific > peer-review

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

Kreutzer, J., Viehrig, M., Pölönen, R. P., Zhao, F., Ojala, M., Aalto-Setälä, K. & Kallio, P., 23 Aug 2019, In : BIOMECHANICS AND MODELING IN MECHANOBIOLOGY.  
Research output: Contribution to journal > Article > Scientific > peer-review

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

Pirjola, L., Kuuluvainen, H., Timonen, H., Saarikoski, S., Teinilä, K., Salo, L., Datta, A., Simonen, P., Karjalainen, P., Kulmala, K. & Rönkkö, T., 15 Nov 2019, In : Applied Energy. 254, 113636.  
Research output: Contribution to journal > Article > Scientific > peer-review

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

Mäntylä, A., Hintikka, J., Frondelius, T., Vaara, J., Lehtovaara, A. & Juoksukangas, J., 5 Nov 2019, In : Tribology International. 11 p., 106054.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Probabilistic approach to physical object disentangling**

Pajarinen, J., Arenz, O., Peters, J. & Neumann, G., 2020, In : IEEE Robotics and Automation Letters. 5, 4, p. 5510-5517 8 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Redox-active, organometallic surface-relief gratings from azobenzene-containing polyferrocenylsilane block copolymers**  
Ahmed, R., Priimagi, A., Faul, C. F. J. & Manners, I., 14 Feb 2012, In : *Advanced Materials*. 24, 7, p. 926-931 6 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Remote diagnostics application software for remote handling equipment**  
Alanen, J., Ruiz Morales, E., Muhammad, A., Saarinen, H. & Minkkinen, J., 2019, In : *Fusion Engineering and Design*.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Running-in effects on friction of journal bearings under slow sliding speeds**  
Linjamaa, A., Lehtovaara, A., Kallio, M. & Léger, A., 2019, In : *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Running-in in fretting, transition from near-stable friction regime to gross sliding**  
Hintikka, J., Mäntylä, A., Vaara, J., Frondelius, T., Juoksukangas, J. & Lehtovaara, A., Nov 2019, In : *Tribology International*. 143, 9 p., 106073.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Second-Harmonic Generation from Metal Nanoparticles: Resonance Enhancement versus Particle Geometry**  
Czaplicki, R., Mäkitalo, J., Siikanen, R., Husu, H., Lehtolahti, J., Kuittinen, M. & Kauranen, M., 14 Jan 2015, In : *Nano Letters*. 15, 1, p. 530-534 5 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Second-harmonic generation imaging of semiconductor nanowires with focused vector beams**  
Bautista, G., Mäkitalo, J., Chen, Y., Dhaka, V., Grasso, M., Karvonen, L., Jiang, H., Huttunen, M. J., Huhtio, T., Lipsanen, H. & Kauranen, M., 6 Feb 2015, In : *Nano Letters*. 15, 3, p. 1564-1569 6 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Self-alignment in the stacking of microchips with mist-induced water droplets**  
Chang, B., Sariola, V., Jääskeläinen, M. & Zhou, Q., Jan 2011, In : *Journal of Micromechanics and Microengineering*. 21, 1, 015016.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Self-alignment of RFID dies on four-pad patterns with water droplet for sparse self-assembly**  
Chang, B., Routa, I., Sariola, V. & Zhou, Q., Sep 2011, In : *Journal of Micromechanics and Microengineering*. 21, 9, 095024.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Shape-dependent plasmonic response and directed self-assembly in a new semiconductor building block, indium-doped cadmium oxide (ICO)**  
Gordon, T. R., Paik, T., Klein, D. R., Naik, G. V., Caglayan, H., Boltasseva, A. & Murray, C. B., 12 Jun 2013, In : *Nano Letters*. 13, 6, p. 2857-2863 7 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Shedding frequency in cavitation erosion evolution tracking**  
Ylönen, M., Franc, J. P., Miettinen, J., Saarenrinne, P. & Fivel, M., 1 Sep 2019, In : *International Journal of Multiphase Flow*. 118, p. 141-149 9 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Smart Skins: Could they be the ultimate sensing tool? Today's uFFFDs industry and personal medical care both strongly demand accurate, reliable, robust, low**  
Le, T., Lin, Z., Wong, C. P. & Tentzeris, M. M., 1 Jun 2015, In : *IEEE Nanotechnology Magazine*. 9, 2, p. 4-10 7 p., 7080864.  
Research output: Contribution to journal › Article › Scientific › peer-review

### **Soft robotic gripper with compliant cell stacks for industrial part handling**

Netzev, M., Angleraud, A. & Pieters, R., 1 Oct 2020, In : IEEE Robotics and Automation Letters. 5, 4, p. 6821-6828 8 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

### **Solvothermal synthesis derived Co-Ga codoped ZnO diluted magnetic degenerated semiconductor nanocrystals**

Šutka, A., Käämbre, T., Joost, U., Kooser, K., Kook, M., Duarte, R. F., Kisand, V., Maiorov, M., Döbelin, N. & Smits, K., 30 Sep 2018, In : Journal of Alloys and Compounds. 763, p. 164-172 9 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

### **Spodumene tailings for porcelain and structural materials: Effect of temperature (1050–1200°C) on the sintering and properties**

Lemougna, P. N., Yliniemi, J., Ismailov, A., Levänen, E., Tanskanen, P., Kinnunen, P., Roning, J. & Illikainen, M., 2019, (Accepted/In press) In : Minerals Engineering. 105843.  
Research output: Contribution to journal › Article › Scientific › peer-review

### **Spontaneous formation of three-dimensionally ordered Bi-rich nanostructures within GaAs<sub>1-x</sub>Bi<sub>x</sub>/GaAs quantum wells**

Luna, E., Wu, M., Hanke, M., Puustinen, J., Guina, M. & Trampert, A., 1 Jul 2016, In : Nanotechnology. 27, 32, 325603.  
Research output: Contribution to journal › Article › Scientific › peer-review

### **Stable and unstable friction in fretting contacts**

Hintikka, J., Mäntylä, A., Vaara, J., Frondelius, T. & Lehtovaara, A., 1 Mar 2019, In : Tribology International. 131, p. 73-82 10 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

### **Static friction measurements on steel against uncoated and coated cast iron**

Andersson, P., Kilpi, L., Holmberg, K., Vaajoki, A. & Oksanen, V., 1 Jan 2016, In : Tribologia. 34, 1-2, p. 5-40 36 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

### **Statistical analysis of E-jet print parameter effects on Ag-nanoparticle ink droplet size**

Laurila, M. M., Khorramdel, B., Dastpak, A. & Mäntysalo, M., 2 Aug 2017, In : Journal of Micromechanics and Microengineering. 27, 9, 095005.  
Research output: Contribution to journal › Article › Scientific › peer-review

### **Synchronous Full-Field Strain and Temperature Measurement in Tensile Tests at Low, Intermediate and High Strain Rates**

Seidt, J. D., Kuokkala, V-T., Smith, J. L. & Gilat, A., Feb 2017, In : Experimental Mechanics. 57, 2, p. 219-229  
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

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

Sautter, J. D., Xu, L., Miroshnichenko, A. E., Lysevych, M., Volkovskaya, I., Smirnova, D. A., Camacho-Morales, R., Zangeneh Kamali, K., Karouta, F., Vora, K., Tan, H. H., Kauranen, M., Staude, I., Jagadish, C., Neshev, D. N. & Rahmani, M., 12 Jun 2019, In : Nano Letters. 19, 6, p. 3905-3911 7 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

### **Techno-economic evaluation of integrating torrefaction with anaerobic digestion**

Doddapaneni, T. R. K. C., Praveenkumar, R., Tolvanen, H., Rintala, J. & Kontinen, J., 2018, In : Applied Energy. 213, p. 272-284 13 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

### **The correlation between gear contact friction and ball on disc friction measurements**

Björling, M., Miettinen, J., Marklund, P., Lehtovaara, A. & Larsson, R., 2015, In : Tribology International. 83, p. 114-119 6 p.

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

**The deformation, strain hardening, and wear behavior of chromium-alloyed hadfield steel in abrasive and impact conditions**

Lindroos, M., Apostol, M., Heino, V., Valtonen, K., Laukkanen, A., Holmberg, K. & Kuokkala, V. T., 2015, In : Tribology Letters. 57, 3, 24.

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

**The effect of initial microstructure on the final properties of press hardened 22MnB5 steels**

Järvinen, H., Isakov, M., Nyssönen, T., Järvenpää, M. & Peura, P., 31 Oct 2016, In : Materials Science and Engineering A: Structural Materials Properties Microstructure and Processing. 676, p. 109-120 12 p.

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

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

Lorimer, G. W., Dicken, R., Peura, P., Pilkington, R., Younes, C. M., Allen, G. C. & Holt, M. J., 1 Dec 1996, In : Materials Science Forum. 207-209, PART 2, p. 645-648 4 p.

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

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

Nurmi, V., Hintikka, J., Juoksukangas, J., Honkanen, M., Vippola, M., Lehtovaara, A., Mäntylä, A., Vaara, J. & Frondelius, T., 1 Mar 2019, In : Tribology International. 131, p. 258-267 10 p.

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

**The potential of electric trucks – An international commodity-level analysis**

Liimatainen, H., van Vliet, O. & Aplyn, D., 15 Feb 2019, In : Applied Energy. 236, p. 804-814 11 p.

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

**Thermal, structural and in vitro dissolution of antimicrobial copper-doped and slow resorbable iron-doped phosphate glasses**

Mishra, A., Petit, L., Pihl, M., Andersson, M., Salminen, T., Rocherullé, J. & Massera, J., 2017, In : Journal of Materials Science. 52, 15, p. 8957–8972 16 p.

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

**The role of niobium in improving toughness and corrosion resistance of high speed steel laser hardfacings**

Rodríguez Ripoll, M., Ojala, N., Katsich, C., Totolin, V., Tomastik, C. & Hradil, K., 5 Jun 2016, In : Materials and Design. 99, p. 509-520 12 p.

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

**Third Particle Ejection Effects on Wear with Quenched and Tempered Steel Fretting Contact**

Hintikka, J., Lehtovaara, A. & Mäntylä, A., 2017, In : TRIBOLOGY TRANSACTIONS. 60, 1, p. 70-78 9 p.

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

**TOpt: a flexible framework for optimising energy management for various ship machinery topologies**

Jaurola, M., Hedin, A., Tikkanen, S. & Huhtala, K., 2018, In : Journal of Marine Science and Technology (Japan).

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

**Toward the Atomically Abrupt Interfaces of SiO<sub>2</sub>/Semiconductor Junctions**

Kuzmin, M., Laukkanen, P., Mäkelä, J., Yasir, M., Tuominen, M., Dahl, J., Punkkinen, M. P. J., Kokko, K., Hedman, H. P., Moon, J., Punkkinen, R., Lastusaari, M., Polojärvi, V., Korpijärvi, V-M. & Guina, M., Jun 2016, In : Advanced Materials Interfaces. 3, 11, 1500510.

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

**Transfer printing of metallic microstructures on adhesion-promoting hydrogel substrates**

Wu, H., Sariola, V., Zhu, C., Zhao, J., Sitti, M. & Bettinger, C. J., 1 Jun 2015, In : Advanced Materials. 27, 22, p. 3398-3404 7 p.

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

**Transparent microelectrode arrays fabricated by ion beam assisted deposition for neuronal cell in vitro recordings**  
Ryynänen, T., Mzezewa, R., Meriläinen, E., Hyvärinen, T., Lekkala, J., Narkilahti, S. & Kallio, P., 1 May 2020, In :  
Micromachines. 11, 5, 497.

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

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

Huttunen-Saarivirta, E., Kilpi, L., Pasanen, A. T., Salminen, T. & Ronkainen, H., 1 Nov 2020, In : Tribology International. 151, 106389.

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

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

Mäntyranta, A., Heino, V., Isotahdon, E., Salminen, T. & Huttunen-Saarivirta, E., 1 Oct 2019, In : Tribology International. 138, p. 250-262 13 p.

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

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

Teisala, H., Geyer, F., Haapanen, J., Juuti, P., Mäkelä, J. M., Vollmer, D. & Butt, H. J., 2018, In : Advanced Materials. 30, 14, 1706529.

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

**Vapor Phase Fabrication of Nanoheterostructures Based on ZnO for Photoelectrochemical Water Splitting**

Barreca, D., Carraro, G., Gasparotto, A., Maccato, C., Altantzis, T., Sada, C., Kaunisto, K., Ruoko, T-P. & Bals, S., 2017, In : Advanced Materials Interfaces. 4, 18, 1700161.

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

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

Linjama, M., 2019, In : Proceedings of the Institution of Mechanical Engineers. Part I: Journal of Systems and Control Engineering.

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

**Variable speed drive with hydraulic boost**

Linjama, M., 2019, In : International Journal of Fluid Power. 20, 1, p. 99-123 25 p.

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

**Vehicle type detection and passenger satisfaction analysis using smartphone sensors and digital surveys**

Perttula, A., Nguyen, N., Collin, J. & Jokinen, J-P., 1 Oct 2019, In : IET Intelligent Transport Systems. 13, 10, p. 1499-1506 8 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.

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

**Wear and impact behaviour of High Velocity Air-Fuel sprayed Fe-Cr-Ni-B-C alloy coatings**

Bolelli, G., Milanti, A., Lusvarghi, L., Trombi, L., Koivuluoto, H. & Vuoristo, P., 2016, In : Tribology International. 95, p. 372-390

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

**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.

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.

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

### **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

### **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

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

Ahonen, T., Hanski, J., Hyvärinen, M., Kortelainen, H., Uusitalo, T., Vainio, H., Kunttu, S. & Koskinen, K., 2019, *Lecture Notes in Mechanical Engineering*. Pleiades Publishing, p. 51-60 10 p. (Lecture Notes in Mechanical Engineering).

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

### **Towards dependable automation**

Seppälä, J. & Salmenperä, M., 2015, *Cyber Security: Analytics, Technology and Automation: Part IV*. Springer

International Publishing, p. 229-249 21 p. (Intelligent Systems, Control and Automation: Science and Engineering; vol. 78).

Research output: Chapter in Book/Report/Conference proceeding > Chapter > 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. 14

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

### **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

### **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

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

Pyrhönen, V-P., Koivisto, H. & Vilkkö, 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

### **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

### **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



**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

**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

**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

**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

**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

**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

**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

**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

**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

**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

**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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **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

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

Ronkainen, H., Kanerva, U., Varis, T., Ruusuvoori, 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

#### **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

#### **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

#### **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

#### **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

#### **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

#### **Moving Web and Dynamic Problem of Aerothermoelastic Vibrations and Instability**

Banichuk, N., Ivanova, S. & Jeronen, J., 2020, *Advanced Problems in Mechanics: Proceedings of the 47th International Summer School-Conference on Advanced Problems in Mechanics, APM 2019*. Indeitsev, D. A. & Krivtsov, A. M. (eds.). Springer, p. 66-71 6 p. (Lecture Notes in Mechanical Engineering).

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

#### **Nanocellulose and Polylactic 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

#### **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

#### **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

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

Lahti, J., Kampuri, 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

### **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

### **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

### **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

### **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

### **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

### **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

### **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

### **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

### **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

### **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

#### **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

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

Christophe, F., Ritola, T., Coatanéa, 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

#### **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

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

Lahtinen, K. & Kuusipalo, J., 2008, *TAPPI 2008 PLACE Conference: Innovations in Flexible Consumer Packaging*.

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

#### **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

#### **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

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

Mokammel, F., Coatanéa, 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

#### **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