

**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.

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

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

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**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).

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**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.

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**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.

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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**

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**

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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.

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

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

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

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

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

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

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**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.

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**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.

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**Controlling liquid spreading using microfabricated undercut edges**

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**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.

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

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

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**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.

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

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

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**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.

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**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.

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**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.

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**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.

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#### **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.

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#### **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.

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#### **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.

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#### **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.

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

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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.

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#### **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.

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**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.

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**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**

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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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**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.

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**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.

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**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**

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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

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#### **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.

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#### **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.

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#### **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., Väliaho, 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

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**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 koordinaatitot 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.

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**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.

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**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.

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

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

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**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.

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

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**Mass balance control of crushing circuits**

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**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.

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

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

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**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.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Nommeots-Nomm, A., Houaoui, A., Pradeepan Packiyannathar, 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.

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

Kreutzer, J., Viehrig, M., Pölonen, R. P., Zhao, F., Ojala, M., Aalto-Setälä, K. & Kallio, P., 23 Aug 2019, In : *BIOMECHANICS AND MODELING IN MECHANOBIOLOGY*.

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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**

Mäntylä, A., Hintikka, J., Frondelius, T., Vaara, J., Lehtovaara, A. & Juoksukangas, J., 5 Nov 2019, In : *Tribology International*. 11 p., 106054.

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**Probabilistic approach to physical object disentangling**

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**Redox-active, organometallic surface-relief gratings from azobenzene-containing polyferrocenylsilane block copolymers**

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**Remote diagnostics application software for remote handling equipment**

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**Running-in effects on friction of journal bearings under slow sliding speeds**

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

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**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.

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**Second-harmonic generation imaging of semiconductor nanowires with focused vector beams**

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**Self-alignment in the stacking of microchips with mist-induced water droplets**

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

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**Shape-dependent plasmonic response and directed self-assembly in a new semiconductor building block, indium-doped cadmium oxide (ICO)**

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**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.

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**Smart Skins: Could they be the ultimate sensing tool? Today's uFFFDs industry and personal medical care both strongly demand accurate, reliable, robust, lo**

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

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

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**Spontaneous formation of three-dimensionally ordered Bi-rich nanostructures within GaAs<sub>1-x</sub>Bi<sub>x</sub>/GaAs quantum wells**  
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**Stable and unstable friction in fretting contacts**

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

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

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

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

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

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

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

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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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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.

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

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

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

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

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

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### **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.

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

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

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

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