

### **Formation of corrosion products on zinc in wet supercritical and subcritical CO<sub>2</sub>: In-situ spectroscopic study**

Kaleva, A., Tassaing, T., Saarimaa, V., Le Bourdon, G., Väisänen, P., Markkulä, A. & Levänen, E., 1 Sep 2020, In : Corrosion Science. 174, 10 p.

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

### **Optimization of photogenerated charge carrier lifetimes in ald grown tio<sub>2</sub> for photonic applications**

Khan, R., Ali-Löytty, H., Saari, J., Valden, M., Tukiainen, A., Lahtonen, K. & Tkachenko, N. V., 10 Aug 2020, In : Nanomaterials. 10, 8, 9 p., 1567.

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

### **Nucleation and growth behavior of Er<sup>3+</sup> doped oxyfluorophosphate glasses**

Ojha, N., Szczodra, A., Boetti, N. G., Massera, J. & Petit, L., 7 Jul 2020, In : RSC Advances. 10, 43, p. 25703-25716 14 p.

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

### **Additive manufacturing of monolithic supercapacitors with biopolymer separator**

Arvani, M., Keskinen, J., Railanmaa, A., Siljander, S., Björkqvist, T., Tuukkanen, S. & Lupo, D., 1 Jun 2020, In : Journal of Applied Electrochemistry. 50, 6, p. 689-697 9 p.

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

### **Utilizing Gelatinized Starchy Waste from Rice Noodle Factory as Substrate for L(+)-Lactic Acid Production by Amyolytic Lactic Acid Bacterium Enterococcus faecium K-1**

Unban, K., Khanongnuch, R., Kanpiengjai, A., Shetty, K. & Khanongnuch, C., May 2020, In : Applied Biochemistry and Biotechnology.

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

### **Evaluation of scaffold microstructure and comparison of cell seeding methods using micro-computed tomography-based tools**

Palmroth, A., Pitkänen, S., Hannula, M., Paakinaho, K., Hyttinen, J., Miettinen, S. & Kellomäki, M., 1 Apr 2020, In : Journal of the Royal Society. Interface. 17, 165, 12 p., 20200102.

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

### **Utilizing Neurons for Digital Logic Circuits: A Molecular Communications Analysis**

Adonias, G. L., Yastrebova, A., Barros, M. T., Koucheryavy, Y., Cleary, F. & Balasubramaniam, S., 1 Apr 2020, In : IEEE Transactions on Nanobioscience. 19, 2, p. 224-236 13 p.

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

### **Transparent Yb<sup>3+</sup> doped phosphate glass-ceramics**

Hongisto, M., Veber, A., Boetti, N. G., Danto, S., Jubera, V. & Petit, L., 1 Jan 2020, In : Ceramics International.

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

### **Investigation of well-defined pinholes in TiO<sub>2</sub> electron selective layers used in planar heterojunction perovskite solar cells**

Masood, M. T., Qudsia, S., Hadadian, M., Weinberger, C., Nyman, M., Ahläng, C., Dahlström, S., Liu, M., Vivo, P., Österbacka, R. & Smått, J. H., 2020, In : Nanomaterials. 10, 1, 16 p., 181.

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### **The thermal contact resistance of a steel-ceramic interface with oxide intermediates**

Silvonen, J., Levänen, E. & Uusitalo, M., 2020, In : Cogent Engineering. 7, 1, 1720057.

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### **In-flightwind field identification and prediction of parafoil systems**

Gao, H., Tao, J., Dehmer, M., Emmert-Streib, F., Sun, Q., Chen, Z., Xie, G. & Zhou, Q., 2020, In : Applied Sciences (Switzerland). 10, 6, 15 p., 1958.

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### **Efficient Conversion of Light to Chemical Energy: Directional, Chiral Photoswitches with Very High Quantum Yields**

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### **Modelling of a pressure swing adsorption unit by deep learning and artificial Intelligence tools**

Oliveira, L. M. C., Koivisto, H., Iwakiri, I. G. I., Loureiro, J. M., Ribeiro, A. M. & Nogueira, I. B. R., 2020, In : Chemical Engineering Science. 224, 115801.

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### **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.

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### **Kinetics and modelling of thiosulphate biotransformations by haloalkaliphilic Thioalkalivibrio versutus**

Hajdu-Rahkama, R., Özkaya, B., Lakaniemi, A. M. & Puhakka, J. A., 2020, In : Chemical Engineering Journal. 401, 9 p., 126047.

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### **Power production and microbial community composition in thermophilic acetate-fed up-flow and flow-through microbial fuel cells**

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### **Transcription closed and open complex formation coordinate expression of genes with a shared promoter region**

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### **Effects of elevated pressures on the activity of acidophilic bioleaching microorganisms**

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### **Controlled Orientations of Neighboring Tetracene Units by Mixed Self-Assembled Monolayers on Gold Nanoclusters for High-Yield and Long-Lived Triplet Excited States through Singlet Fission**

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### **Effects of anode materials on electricity production from xylose and treatability of TMP wastewater in an up-flow microbial fuel cell**

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

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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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### **Influence of ions to modulate hydrazone and oxime reaction kinetics to obtain dynamically cross-linked hyaluronic acid hydrogels**

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**Chlorine induced high-temperature corrosion mechanisms in HVOF and HVOF sprayed Cr<sub>3</sub>C<sub>2</sub>-based hardmetal coatings**  
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**Characterisation and in vitro and in vivo evaluation of supercritical-CO<sub>2</sub>-foamed β-TCP/PLCL composites for bone applications**

Pitkänen, S., Paakinaho, K., Pihlman, H., Ahola, N., Hannula, M., Asikainen, S., Manninen, M., Morelius, M., Keränen, P., Hyttinen, J., Kellomäki, M., Laitinen-Vapaavuori, O. & Miettinen, S., 5 Aug 2019, In : European cells & materials. 38, p. 35-50 16 p.

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**Photochemistry of dithiophosphate Ni(S<sub>2</sub>P(i-Bu)<sub>2</sub>)<sub>2</sub> complex in CCl<sub>4</sub>. Transient species and TD-DFT calculations**

Solovyev, A. I., Mikheyli, A. V., Plyusnin, V. F., Shubin, A. A., Grivin, V. P., Larionov, S. V., Tkachenko, N. V. & Lemmetyinen, H., 1 Aug 2019, In : Journal of Photochemistry and Photobiology A: Chemistry. 381, 111857.

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**Alkane and wax ester production from lignin-related aromatic compounds**

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

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**An architectural understanding of natural sway frequencies in trees**

Jackson, T., Shenkin, A., Moore, J., Bunce, A., van Emmerik, T., Kane, B., Burcham, D., James, K., Selker, J., Calders, K., Origo, N., Disney, M., Burt, A., Wilkes, P., Raunonen, P., Gonzalez de Tanago Menaca, J., Lau, A., Herold, M., Goodman, R. C., Fourcaud, T. & Malhi, Y., 28 Jun 2019, In : Journal of the Royal Society. Interface. 16, 155, 1 p.

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

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**Synthetic metabolic pathway for the production of 1-alkenes from lignin-derived molecules**

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**Mining tailings as raw materials for reaction-sintered aluminosilicate ceramics: Effect of mineralogical composition on microstructure and properties**

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**Solvent Welding and Imprinting Cellulose Nanofiber Films Using Ionic Liquids**

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

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**A Pentacene-based Nanotube Displaying Enriched Electrochemical and Photochemical Activities**

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**Cost-optimal energy performance measures in a new daycare building in cold climate**

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**Textile-integrated three-dimensional printed and embroidered structures for wearable wireless platforms**

He, H., Chen, X., Ukkonen, L. & Virkki, J., 2019, In : Textile Research Journal. 89, 4

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**Reliability evaluation of wearable radio frequency identification tags: Design and fabrication of a two-part textile antenna**

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**Towards the EU emissions targets of 2050: optimal energy renovation measures of Finnish apartment buildings**

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**Volatile fatty acid adsorption on anion exchange resins: kinetics and selective recovery of acetic acid**

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**Quality and Capacity Analysis of Molecular Communications in Bacterial Synthetic Logic Circuits**

Martins, D. P., Barros, M. T. & Balasubramaniam, S., 2019, (Accepted/In press) In : IEEE Transactions on Nanobioscience.

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**High-speed production of antibacterial fabrics using liquid flame spray**

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**Activity Level and Body Mass Index as Predictors of Physical Workload During Working Career**

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**Structure and Dynamics of Thermosensitive pDNA Polyplexes Studied by Time-Resolved Fluorescence Spectroscopy**

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**Large-scale efficient water harvesting using bioinspired micro-patterned copper oxide nanoneedle surfaces and guided droplet transport**

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**Mechanical impact stimulation platform tailored for high-resolution light microscopy**

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

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**Synergistic Computational-Experimental Discovery of Highly Selective PtCu Nanocluster Catalysts for Acetylene Semihydrogenation**

Ayodele, O. B., Cai, R., Wang, J., Ziouani, Y., Liang, Z., Spadaro, M. C., Kovnir, K., Arbiol, J., Akola, J., Palmer, R. E. & Kolen'ko, Y. V., 2019, In : *ACS CATALYSIS*. p. 451-457 7 p.

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**Characterization of the anisotropic deformation of the right ventricle during open heart surgery**

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**How well can we predict cluster fragmentation inside a mass spectrometer?**

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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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**Dynamic decoupling of biomass and wax ester biosynthesis in *Acinetobacter baylyi* by an autonomously regulated switch**

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**The importance of controlled mismatch of biomechanical compliances of implantable scaffolds and native tissue for articular cartilage regeneration**

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**Aminobenzylated 4-Nitrophenols as Antibacterial Agents Obtained from 5-Nitrosalicylaldehyde through a Pétasis Borono-Mannich Reaction**

Rimpiläinen, T., Andrade, J., Nunes, A., Ntungwe, E., Fernandes, A. S., Vale, J. R., Rodrigues, J., Gomes, J. P., Rijo, P. & Candeias, N. R., 29 Nov 2018, In : *ACS Omega*. 3, 11, p. 16191-16202 12 p.

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**High-Yield Generation of Triplet Excited States by an Efficient Sequential Photoinduced Process from Energy Transfer to Singlet Fission in Pentacene-Modified CdSe/ZnS Quantum Dots**

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#### **Molecular-Scale Ligand Effects in Small Gold-Thiolate Nanoclusters**

Chevrier, D. M., Raich, L., Rovira, C., Das, A., Luo, Z., Yao, Q., Chatt, A., Xie, J., Jin, R., Akola, J. & Zhang, P., 14 Nov 2018, In : Journal of the American Chemical Society. 140, 45, p. 15430-15436 7 p.

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#### **Chromatographic studies of n-Propyl Propionate: Adsorption equilibrium, modelling and uncertainties determination**

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#### **Tribocorrosion behaviour of aluminium bronze in 3.5 wt.% NaCl solution**

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#### **Novel osteoconductive $\beta$ -tricalcium phosphate/poly(L-lactide-co-e-caprolactone) scaffold for bone regeneration: a study in a rabbit calvarial defect**

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#### **Molecular Communications Pulse-based Jamming Model for Bacterial Biofilm Suppression**

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#### **Performance of a biotrickling filter for the anaerobic utilization of gas-phase methanol coupled to thiosulphate reduction and resource recovery through volatile fatty acids production**

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#### **Photoinduced Energy Transfer in ZnCdSeS Quantum Dot-Phthalocyanines Hybrids**

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#### **A new method to optimize natural convection heat sinks**

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**Selenate removal in biofilm systems: Effect of nitrate and sulfate on selenium removal efficiency, biofilm structure and microbial community**

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**High Bending-Mode Sensitivity of Printed Piezoelectric Poly(vinylidene fluoride- co-trifluoroethylene) Sensors**

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**Fluid flow simulations meet high-speed video: Computer vision comparison of droplet dynamics**

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**Effect of surfactant type and sonication energy on the electrical conductivity properties of nanocellulose-CNT nanocomposite films**

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**The effect of carbon and nickel additions on the precursor synthesis of Cr<sub>3</sub>C<sub>2</sub>-Ni nanopowder**

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**The effects of laser patterning 10CeTZP-Al<sub>2</sub>O<sub>3</sub> nanocomposite disc surfaces: Osseous differentiation and cellular arrangement in vitro**

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**Influence of the phosphate glass melt on the corrosion of functional particles occurring during the preparation of glass-ceramics**

Ojha, N., Laihininen, T., Salminen, T., Lastusaari, M. & Petit, L., Jun 2018, In : Ceramics International. 44, 10, p. 11807-11811

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**Effect of Co-Adsorbate and Hole Transporting Layer on the Photoinduced Charge Separation at the TiO<sub>2</sub>-Phthalocyanine Interface**

Virkki, K., Tervola, E., Medel, M., Torres, T. & Tkachenko, N. V., 31 May 2018, In : ACS Omega. 3, 5, p. 4947-4958 12 p.

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

**A Ceramide-Regulated Element in the Late Endosomal Protein LAPTM4B Controls Amino Acid Transporter Interaction**

Zhou, K., Dichlberger, A., Martinez-Seara, H., Nyholm, T. K. M., Li, S., Kim, Y. A., Vattulainen, I., Ikonen, E. & Blom, T., 23 May 2018, In : ACS Central Science. 4, 5, p. 548-558 11 p.

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**Wet etching of dilute nitride GaInNAs, GaInNAsSb, and GaNAsSb alloys lattice-matched to GaAs**

Raappana, M., Polojärvi, V., Aho, A., Mäkelä, J., Aho, T., Tukiainen, A., Laukkanen, P. & Guina, M., 15 May 2018, In : Corrosion Science. 136, p. 268-274 7 p.

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

**Switchable light reflectance in dilute magneto-optical colloids based on nickel ferrite nanowires**

Sutka, A., Timusk, M., Joost, U., Ignatans, R. & Maiorov, M., 2 May 2018, In : e-Journal of Surface Science and Nanotechnology. 16, p. 119-121 3 p.

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#### **Characteristics of nFOG, an aerosol-based wet thin film coating technique**

Harra, J., Tuominen, M., Juuti, P., Rissler, J., Koivuluoto, H., Haapanen, J., Niemelä-Anttonen, H., Stenroos, C., Teisala, H., Lahti, J., Kuusipalo, J., Vuoristo, P. & Mäkelä, J. M., May 2018, In : Journal of Coatings Technology Research. 15, 3, p. 623-632 10 p.

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#### **Membrane bound COMT isoform is an interfacial enzyme: General mechanism and new drug design paradigm**

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#### **Uncertainty in multispectral lidar signals caused by incidence angle effects**

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

#### **Non-intersecting leaf insertion algorithm for tree structure models**

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#### **Weighing trees with lasers: Advances, challenges and opportunities**

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#### **Aqueous synthesis of Z-scheme photocatalyst powders and thin-film photoanodes from earth abundant elements**

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#### **Soft hydrazone crosslinked hyaluronan- and alginate-based hydrogels as 3D supportive matrices for human pluripotent stem cell-derived neuronal cells**

Karvinen, J., Joki, T., Ylä-Outinen, L., Koivisto, J. T., Narkilahti, S. & Kellomäki, M., 1 Mar 2018, In : Reactive and Functional Polymers. 124, p. 29-39 11 p.

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#### **Improved Stability of Atomic Layer Deposited Amorphous TiO<sub>2</sub> Photoelectrode Coatings by Thermally Induced Oxygen Defects**

Hannula, M., Ali-Löytty, H., Lahtonen, K., Sarlin, E., Saari, J. & Valden, M., 27 Feb 2018, In : Chemistry of Materials. 30, 4, p. 1199-1208 10 p.

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#### **Improved fatty aldehyde and wax ester production by overexpression of fatty acyl-CoA reductases**

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#### **Design, synthesis, and structure-property relationships of Er<sup>3+</sup>-doped TiO<sub>2</sub> luminescent particles synthesized by sol-gel**

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

#### **Upconversion from fluorophosphate glasses prepared with NaYF<sub>4</sub>:Er<sup>3+</sup>,Yb<sup>3+</sup> nanocrystals**

Ojha, N., Tuomisto, M., Lastusaari, M. & Petit, L., 1 Jan 2018, In : RSC Advances. 8, 34, p. 19226-19236 11 p.



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### **Regeneration of sulfur-poisoned Pd-based catalyst for natural gas oxidation**

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### **Composition and role of the attached and planktonic microbial communities in mesophilic and thermophilic xylose-fed microbial fuel cells**

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### **Effect of N/S ratio on anoxic thiosulfate oxidation in a fluidized bed reactor: Experimental and artificial neural network model analysis**

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### **Bioactive glass induced osteogenic differentiation of human adipose stem cells is dependent on cell attachment mechanism and mitogen-activated protein kinases**

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### **Deactivation of Pt/SiO<sub>2</sub>-ZrO<sub>2</sub> diesel oxidation catalysts by sulphur, phosphorus and their combinations**

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**Oxygen and water vapor transmission rates of starch-poly(vinyl alcohol) barrier coatings for flexible packaging paper**  
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**Production of long chain alkyl esters from carbon dioxide and electricity by a two-stage bacterial process**

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**DoGlycans-Tools for Preparing Carbohydrate Structures for Atomistic Simulations of Glycoproteins, Glycolipids, and Carbohydrate Polymers for GROMACS**

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

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**Membrane Binding of Recoverin: From Mechanistic Understanding to Biological Functionality**

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**Exhaust emissions of non-road mobile machine: Real-world and laboratory studies with diesel and HVO fuels**

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**Effects of different nickel species on autotrophic denitrification driven by thiosulfate in batch tests and a fluidized-bed reactor**

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**Dissolution-induced nanowire synthesis on hot-dip galvanized surface in supercritical carbon dioxide**

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**The effects of calcium and potassium on CO<sub>2</sub> gasification of birch wood in a fluidized bed**

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**Electron microscopic studies of natural gas oxidation catalyst – Effects of thermally accelerated aging on catalyst microstructure**

Honkanen, M., Hansen, T. W., Jiang, H., Kärkkäinen, M., Huuhtanen, M., Heikkinen, O., Kallinen, K., Lahtinen, J., Keiski, R. L., Wagner, J. B. & Vippola, M., 1 May 2017, In : Journal of Catalysis. 349, p. 19-29 11 p.

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#### **Bioamine-crosslinked gellan gum hydrogel for neural tissue engineering**

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#### **Calcium Directly Regulates Phosphatidylinositol 4,5-Bisphosphate Headgroup Conformation and Recognition**

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#### **Hierarchical Self-Assembly of Halogen-Bonded Block Copolymer Complexes into Upright Cylindrical Domains**

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#### **Biological removal of selenate and ammonium by activated sludge in a sequencing batch reactor**

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#### **Aligned Poly( $\epsilon$ -caprolactone) Nanofibers Guide the Orientation and Migration of Human Pluripotent Stem Cell-Derived Neurons, Astrocytes, and Oligodendrocyte Precursor Cells In Vitro**

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#### **Two cations, two mechanisms: Interactions of sodium and calcium with zwitterionic lipid membranes**

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#### **Supramolecular control of liquid crystals by doping with halogen-bonding dyes**

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#### **Cultivation of *Scenedesmus acuminatus* in different liquid digestates from anaerobic digestion of pulp and paper industry biosludge**

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#### **Particle emissions characterization from a medium-speed marine diesel engine with two fuels at different sampling conditions**

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**Magnesium aminoclay enhances lipid production of mixotrophic *Chlorella* sp. KR-1 while reducing bacterial populations**

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**Grain orientation dependent Nb-Ti microalloying mediated surface segregation on ferritic stainless steel**

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**Increased survival rate by local release of diclofenac in a murine model of recurrent oral carcinoma**

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**3D micro-nano structured hybrid scaffolds: An investigation into the role of nanofiber coating on viability, proliferation and differentiation of seeded mesenchymal stem cells**

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**Modeling of the catalytic effects of potassium and calcium on spruce wood gasification in CO<sub>2</sub>**

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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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**Development of Magnetic Losses During Accelerated Corrosion Tests for Nd-Fe-B Magnets Used in Permanent Magnet Generators**  
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**Wetting hysteresis induced by temperature changes: Supercooled water on hydrophobic surfaces**  
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**Human Adipose Stem Cells Differentiated on Braided Polylactide Scaffolds is a Potential Approach for Tendon Tissue Engineering**  
Vuornos, K., Björninen, M., Talvitie, E., Paakinaho, K., Kellomäki, M., Huhtala, H., Miettinen, S., Seppänen-Kajjansinkko, R. & Haimi, S., 1 Mar 2016, In : *Tissue Engineering Part A*. 22, 5-6, p. 513-523 11 p.  
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**Importance of maintenance data quality in extended warranty simulation**  
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**Accelerated deactivation studies of the natural-gas oxidation catalyst-Verifying the role of sulfur and elevated temperature in catalyst aging**  
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**Remarkable Dependence of the Final Charge Separation Efficiency on the Donor-Acceptor Interaction in Photoinduced Electron Transfer**  
Higashino, T., Yamada, T., Yamamoto, M., Furube, A., Tkachenko, N. V., Miura, T., Kobori, Y., Jono, R., Yamashita, K. & Imahori, H., 2016, In : *Angewandte Chemie (International Edition)*. 55, 2, p. 629-633

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

#### **Preferential adsorption of Cu in a multi-metal mixture onto biogenic elemental selenium nanoparticles**

Jain, R., Dominic, D., Jordan, N., Rene, E. R., Weiss, S., van Hullebusch, E. D., Hübner, R. & Lens, P. N. L., 2016, In : Chemical Engineering Journal. 284, p. 917–925

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

#### **Composites of high-temperature thermomechanical pulps and polylactic acid**

Solala, I., Koistinen, A., Siljander, S., Vuorinen, J. & Vuorinen, T., 2016, In : BioResources. 11, 1, p. 1125-1140 16 p.

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

#### **Biological and Bioelectrochemical Recovery of Critical and Scarce Metals**

Nancharaiyah, Y. V., Mohan, S. V. & Lens, P. N. L., 2016, In : Trends in Biotechnology. 34, 2, p. 137-155 19 p.

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

#### **High-Yield Excited Triplet States in Pentacene Self-Assembled Monolayers on Gold Nanoparticles through Singlet Exciton Fission**

Kato, D., Sakai, H., Tkachenko, N. V. & Hasobe, T., 2016, In : Angewandte Chemie (International Edition). 55, 17, p. 5230-5234

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

#### **Superfluorinated Ionic Liquid Crystals Based on Supramolecular, Halogen-Bonded Anions**

Cavallo, G., Terraneo, G., Monfredini, A., Saccone, M., Priimägi, A., Pilati, T., Resnati, G., Metrangolo, P. & Bruce, D. W., 2016, In : Angewandte Chemie (International Edition). 55, 21, p. 6300-6304

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

#### **Fire-safe and environmentally friendly nanocomposites based on layered double hydroxides and ethylene propylene diene elastomer**

Basu, D., Das, A., Wang, D. Y., George, J. J., Stöckelhuber, K. W., Boldt, R., Leuteritz, A. & Heinrich, G., 2016, In : RSC Advances. 6, 31, p. 26425-26436 12 p.

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

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

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

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

#### **Decoding the Morphological Diversity in Two Dimensional Crystalline Porous Polymers by Core Planarity Modulation**

Halder, A., Kandambeth, S., Biswal, B. P., Kaur, G., Roy, N. C., Addicoat, M., Salunke, J. K., Banerjee, S., Vanka, K., Heine, T., Verma, S. & Banerjee, R., 2016, In : Angewandte Chemie (International Edition). 55, 27, p. 7806-7810 5 p.

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

#### **Enhanced adsorption of orthophosphate and copper onto hydrochar derived from sewage sludge by KOH activation**

Spataru, A., Jain, R., Chung, J. W., Gerner, G., Krebs, R. & Lens, P. N. L., 2016, In : RSC Advances. 6, 104, p. 101827-101834 8 p.

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

#### **Nonlinear transmittance and optical power limiting in magnesium ferrite nanoparticles: effects of laser pulsewidth and particle size**

Perumbilavil, S., Sridharan, K., Abraham, A. R., Janardhanan, H. P., Kalarikkal, N. & Philip, R., 2016, In : RSC Advances. 6, 108, p. 106754-106761 8 p.

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

#### **The formation and physical properties of the particle emissions from a natural gas engine**

Alanen, J., Saukko, E., Lehtoranta, K., Murtonen, T., Timonen, H., Hillamo, R., Karjalainen, P., Kuuluvainen, H., Harra, J., Keskinen, J. & Rönkkö, T., 15 Dec 2015, In : Fuel. 162, p. 155-161 7 p.

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

**Modeling carbon dioxide transport in PDMS-based microfluidic cell culture devices**

Mäki, A. J., Peltokangas, M., Kreutzer, J., Auvinen, S. & Kallio, P., 1 Dec 2015, In : *Chemical Engineering Science*. 137, p. 515-524 10 p.

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

**Polypyrrole coating on poly-(lactide/glycolide)- $\beta$ -tricalcium phosphate screws enhances new bone formation in rabbits**

Zhao, M. D., Björninen, M., Cao, L., Wang, H. R., Pelto, J., Li, X. Q., Hyttinen, J., Jiang, Y. Q., Kellomäki, M., Miettinen, S., Sándor, G. K., Seppänen, R., Haimi, S. & Dong, J., 27 Nov 2015, In : *Biomedical Materials*. 10, 6, 065016.

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

**Graphene-intercalated Fe<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub> heterojunctions for efficient photoelectrolysis of water**

Kaouk, A., Ruoko, T. P., Gönüllü, Y., Kaunisto, K., Mettenböcker, A., Gurevich, E., Lemmetyinen, H., Ostendorf, A. & Mathur, S., 13 Nov 2015, In : *RSC Advances*. 5, 123, p. 101401-101407 7 p.

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

**Simultaneous nutrient removal and lipid production with *Chlorella vulgaris* on sterilized and non-sterilized anaerobically pretreated piggery wastewater**

Marjakangas, J. M., Chen, C. Y., Lakaniemi, A. M., Puhakka, J. A., Whang, L. M. & Chang, J. S., 5 Nov 2015, In : *Biochemical Engineering Journal*. 103, p. 177-184 8 p.

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

**Tri-functionality of Fe<sub>3</sub>O<sub>4</sub>-embedded carbon microparticles in microalgae harvesting**

Seo, J. Y., Lee, K., Ramasamy, P., Kim, B., Lee, S. Y., Oh, Y. K. & Park, S. B., 5 Nov 2015, In : *Chemical Engineering Journal*. 280, p. 206-214 9 p.

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

**Effect of rubber polarity on selective wetting of carbon nanotubes in ternary blends**

Le, H. H., Parsaker, M., Sriharish, M. N., Henning, S., Menzel, M., Wiefßner, S., Das, A., Do, Q. K., Heinrich, G. & Radosch, H. J., 1 Nov 2015, In : *Express Polymer Letters*. 9, 11, p. 960-971 12 p.

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

**Comparison of different cationized proteins as biomaterials for nanoparticle-based ocular gene delivery**

Zorzi, G. K., Párraga, J. E., Seijo, B. & Sanchez, A., 1 Nov 2015, In : *Colloids and Surfaces B: Biointerfaces*. 135, p. 533-541 9 p.

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

**Submolecular Plasticization Induced by Photons in Azobenzene Materials**

Vapaavuori, J., Laventure, A., Bazuin, C. G., Lebel, O. & Pellerin, C., 28 Oct 2015, In : *Journal of the American Chemical Society*. 137, 42, p. 13510-13517 8 p.

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

**Cultivation of *Nannochloropsis* for eicosapentaenoic acid production in wastewaters of pulp and paper industry**

Polishchuk, A., Valev, D., Tarvainen, M., Mishra, S., Kinnunen, V., Antal, T., Yang, B., Rintala, J. & Tyystjärvi, E., 1 Oct 2015, In : *Bioresource Technology*. 193, p. 469-476 8 p.

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

**Molecular Design of Light-Responsive Hydrogels, for in Situ Generation of Fast and Reversible Valves for Microfluidic Applications**

Ter Schiphorst, J., Coleman, S., Stumpel, J. E., Ben Azouz, A., Diamond, D. & Schenning, A. P. H. J., 8 Sep 2015, In : *Chemistry of Materials*. 27, 17, p. 5925-5931 7 p.

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

**Effects of anode potentials on bioelectrogenic conversion of xylose and microbial community compositions**

Kokko, M. E., Mäkinen, A. E., Sulonen, M. L. K. & Puhakka, J. A., 5 Sep 2015, In : *Biochemical Engineering Journal*. 101, p. 248-252 5 p.

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

**Enhanced photoactive and photoelectrochemical properties of TiO<sub>2</sub> sol-gel coated steel by the application of SiO<sub>2</sub> intermediate layer**

Nikkanen, J. P., Huttunen-Saarivirta, E., Salminen, T., Hyvärinen, L., Honkanen, M., Isotahdon, E., Heinonen, S. & Levänen, E., 1 Sep 2015, In : Applied Catalysis B-Environmental. 174-175, p. 533-543 11 p.

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

**Searching for a robust strategy for minimizing alkali chlorides in fluidized bed boilers during burning of high SRF-energy-share fuel**

Bajamundi, C. J. E., Vainikka, P., Hedman, M., Silvennoinen, J., Heinanen, T., Taipale, R. & Konttinen, J., 1 Sep 2015, In : Fuel. 155, p. 25-36 12 p.

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

**Surface Modified Biodegradable Electrospun Membranes as a Carrier for Human Embryonic Stem Cell-Derived Retinal Pigment Epithelial Cells**

Sorkio, A., Porter, P. J., Juuti-Uusitalo, K., Meenan, B. J., Skottman, H. & Burke, G. A., 1 Sep 2015, In : Tissue Engineering Part A. 21, 17-18, p. 2301-2314 14 p.

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

**Influence of relative humidity and physical load during storage on dustiness of inorganic nanomaterials: implications for testing and risk assessment**

Levin, M., Rojas, E., Vanhala, E., Vippola, M., Liguori, B., Kling, K. I., Koponen, I. K., Mølhav, K., Tuomi, T., Gregurec, D., Moya, S. & Jensen, K. A., 14 Aug 2015, In : Journal of Nanoparticle Research. 17, 8, 337.

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

**Evaluation of crushing strength of spray-dried MgAl<sub>2</sub>O<sub>4</sub> granule beds**

Kanerva, U., Suhonen, T., Lagerbom, J. & Levänen, E., 1 Aug 2015, In : Ceramics International. 41, 7, p. 8494-8500 7 p.

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

**Sol-gel synthesis of quaternary (P<sub>2</sub>O<sub>5</sub>)<sub>55</sub>-(CaO)<sub>25</sub>-(Na<sub>2</sub>O)<sub>(20-x)</sub>-(TiO<sub>2</sub>)<sub>x</sub> bioresorbable glasses for bone tissue engineering applications (x = 0, 5, 10, or 15)**

Foroutan, F., Walters, N. J., Owens, G. J., Mordan, N. J., Kim, H. W., de Leeuw, N. H. & Knowles, J. C., 1 Aug 2015, In : Biomedical materials (Bristol, England). 10, 4, p. 45025 1 p.

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

**High quality sub-10 nm graphene nanoribbons by on-chip PS-b-PDMS block copolymer lithography**

Rasappa, S., Caridad, J. M., Schulte, L., Cagliani, A., Borah, D., Morris, M. A., Bøggild, P. & Ndoni, S., 29 Jul 2015, In : RSC Advances. 5, 82, p. 66711-66717 7 p.

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

**Electricity production by a microbial fuel cell fueled by brewery wastewater and the factors in its membrane deterioration**

Çetinkaya, A. Y., Köroğlu, E. O., Demir, N. M., Baysoy, D. Y., Özkaya, B. & Çakmakçı, M., 20 Jul 2015, In : Chinese Journal of Catalysis. 36, 7, p. 1068-1076 9 p.

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

**Lipid production by eukaryotic microorganisms isolated from palm oil mill effluent**

Marjakangas, J. M., Lakaniemi, A. M., Koskinen, P. E. P., Chang, J. S. & Puhakka, J. A., 5 Jul 2015, In : Biochemical Engineering Journal. 99, p. 48-54 7 p.

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



**The influence of SrO and CaO in silicate and phosphate bioactive glasses on human gingival fibroblasts**

Massera, J., Kokkari, A., Närhi, T. & Hupa, L., 25 Jun 2015, In : Journal of Materials Science: Materials in Medicine. 26, 6, 196.

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

**Catalytic effect of Ca and K on CO<sub>2</sub> gasification of spruce wood char**

Perander, M., DeMartini, N., Brink, A., Kramb, J., Karlström, O., Hemming, J., Moilanen, A., Konttinen, J. & Hupa, M., 15 Jun 2015, In : Fuel. 150, p. 464-472 9 p.

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

**A facile route to synthesis of S-doped TiO<sub>2</sub> nanoparticles for photocatalytic activity**

McManamon, C., O'Connell, J., Delaney, P., Rasappa, S., Holmes, J. D. & Morris, M. A., 30 May 2015, In : Journal of Molecular Catalysis A: Chemical. 406, p. 51-57!

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

**Biomimetic collagen I and IV double layer Langmuir-Schaefer films as microenvironment for human pluripotent stem cell derived retinal pigment epithelial cells**

Sorkio, A. E., Vuorimaa-Laukkanen, E. P., Hakola, H. M., Liang, H., Ujula, T. A., Valle-Delgado, J. J., Österberg, M., Yliperttula, M. L. & Skottman, H., 1 May 2015, In : Biomaterials. 51, p. 257-269 13 p.

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

**Workplace performance of a loose-fitting powered air purifying respirator during nanoparticle synthesis**

Koivisto, A. J., Aromaa, M., Koponen, I. K., Fransman, W., Jensen, K. A., Mäkelä, J. M. & Hämeri, K. J., 9 Apr 2015, In : Journal of Nanoparticle Research. 17, 4

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**Multi-stable dynamics of the non-adiabatic repressilator**

Potapov, I., Zhurov, B. & Volkov, E., 6 Mar 2015, In : Journal of the Royal Society. Interface. 12, 104, 20141315.

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

**Fluidized-bed denitrification of mining water tolerates high nickel concentrations**

Zou, G., Papirio, S., van Hullebusch, E. D. & Puhakka, J. A., 1 Mar 2015, In : Bioresource Technology. 179, p. 284-290 7 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

**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

**Oxidation half-reaction of aqueous nucleosides and nucleotides via photoelectron spectroscopy augmented by ab initio calculations**

Schroeder, C. A., Pluharová, E., Seidel, R., Schroeder, W. P., Faubel, M., Slavíček, P., Winter, B., Jungwirth, P. & Bradforth, S. E., 14 Jan 2015, In : Journal of the American Chemical Society. 137, 1, p. 201-209 9 p.

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

**Perfluoro-1,1'-biphenyl and perfluoronaphthalene and their derivatives as  $\pi$ -acceptors for anions**

Yi, H., Albrecht, M., Valkonen, A. & Rissanen, K., 1 Jan 2015, In : New Journal of Chemistry. 39, 1, p. 746-749 4 p.

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

**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

**Chemolithotrophic denitrification in biofilm reactors**

Di Capua, F., Papirio, S., Lens, P. N. L. & Esposito, G., 2015, In : Chemical Engineering Journal. 280, p. 643-657 15 p.

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

**Characterisation of novel regenerated cellulosic, viscose, and cotton fibres and the dyeing properties of fabrics**

Kamppuri, T., Vehviläinen, M., Puolakka, A., Honkanen, M., Vippola, M. & Rissanen, M., 2015, In : Coloration Technology. 131, 5, p. 396-402 7 p.

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

**Water-responsive dual-coloured photonic polymer coatings based on cholesteric liquid crystals**

Stumpel, J. E., Broer, D. J. & Schenning, A. P. H. J., 2015, In : RSC Advances. 5, 115, p. 94650-94653 4 p.

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

**Coulomb explosion during the early stages of the reaction of alkali metals with water**

Mason, P. E., Uhlig, F., Vaněk, V., Buttersack, T., Bauerecker, S. & Jungwirth, P., 2015, In : Nature Chemistry. 7, 3, p. 250-254 5 p.

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

**Multifunctional ultras-small nanoplat-forms for vascular-targeted interstitial photodynamic therapy of brain tumors guided by real-time MRI**

Bechet, D., Auger, F., Couleaud, P., Marty, E., Ravasi, L., Durieux, N., Bonnet, C., Plénat, F., Frochet, C., Mordon, S., Tillement, O., Vanderesse, R., Lux, F., Perriat, P., Guillemain, F. & Barberi-Heyob, M., 2015, In : NANOMEDICINE: NANOTECHNOLOGY BIOLOGY AND MEDICINE. 11, 3, p. 657-670 14 p.

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

**Efficient preparation of shuffled DNA libraries through recombination (Gateway) cloning**

Lehtonen, S. I., Taskinen, B., Ojala, E., Kukkurainen, S., Rahikainen, R., Riihimäki, T. A., Laitinen, O. H., Kulomaa, M. S. & Hytönen, V. P., 2015, In : Protein Engineering Design and Selection. 28, 1, p. 23-28 6 p.

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

**Enquête de la variabilité cycle-cycle du NO dans la combustion homogène**

Karvountzis-Kontakiotis, A. & Ntziachristos, L., 2015, In : OIL AND GAS SCIENCE AND TECHNOLOGY : REVUE DE L'INSTITUT FRANCAIS DU PETROLE. 70, 1, p. 111-123 13 p.

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

**Switchavidin: Reversible biotin-avidin-biotin bridges with high affinity and specificity**

Taskinen, B., Zauner, D., Lehtonen, S. I., Koskinen, M., Thomson, C., Kähkönen, N., Kukkurainen, S., Määttä, J. A. E., Ihalainen, T. O., Kulomaa, M. S., Gruber, H. J. & Hytönen, V. P., 17 Dec 2014, In : Bioconjugate Chemistry. 25, 12, p. 2233-2243 11 p.

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**Time-resolved fluorescence methods (IUPAC technical report)**

Lemmetyinen, H., Tkachenko, N. V., Valeur, B., Hotta, J. I., Ameloot, M., Ernsting, N. P., Gustavsson, T. & Boens, N., 1 Dec 2014, In : Pure and Applied Chemistry. 86, 12, p. 1969-1998 30 p.

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

**Improved biomass and lipid production in a mixotrophic culture of Chlorella sp. KR-1 with addition of coal-fired flue-gas**

Praveenkumar, R., Kim, B., Choi, E., Lee, K., Park, J. Y., Lee, J. S., Lee, Y. C. & Oh, Y. K., 1 Nov 2014, In : Bioresource Technology. 171, p. 500-505 6 p.

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

### **Rapid, Brushless Self-assembly of a PS-b-PDMS Block Copolymer for Nanolithography**

Rasappa, S., Schulte, L., Borah, D., Morris, M. A. & Ndoni, S., 1 Oct 2014, In : Colloids and Interface Science Communications. 2, p. 1-5 5 p.

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

### **Mixotrophic cultivation of oleaginous *Chlorella* sp. KR-1 mediated by actual coal-fired flue gas for biodiesel production**

Praveenkumar, R., Kim, B., Choi, E., Lee, K., Cho, S., Hyun, J. S., Park, J. Y., Lee, Y. C., Lee, H. U., Lee, J. S. & Oh, Y. K., 12 Sep 2014, In : Bioprocess and Biosystems Engineering. 37, 10, p. 2083-2094 12 p.

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

### **Molecular engineering of avidin and hydrophobin for functional self-assembling interfaces**

Kurppa, K., Hytönen, V. P., Nakari-Setälä, T., Kulomaa, M. S. & Linder, M. B., 1 Aug 2014, In : Colloids and Surfaces B: Biointerfaces. 120, p. 102-109 8 p.

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

### **Bioprocessing of enhanced cellulase production from a mutant of *Trichoderma asperellum* RCK2011 and its application in hydrolysis of cellulose**

Raghuwanshi, S., Deswal, D., Karp, M. & Kuhad, R. C., 15 May 2014, In : Fuel. 124, p. 183-189 7 p.

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

### **Light-fuelled transport of large dendrimers and proteins**

Koskela, J. E., Liljeström, V., Lim, J., Simanek, E. E., Ras, R. H. A., Priimagi, A. & Kostianen, M. A., 14 May 2014, In : Journal of the American Chemical Society. 136, 19, p. 6850-6853 4 p.

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

### **Assessment of metabolic flux distribution in the thermophilic hydrogen producer *Caloramator celer* as affected by external pH and hydrogen partial pressure**

Ciranna, A., Pawar, S. S., Santala, V., Karp, M. & van Niel, E. W. J., 28 Mar 2014, In : Microbial Cell Factories. 13, 1, 48.

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

### **Structure and barrier properties of human embryonic stem cell-derived retinal pigment epithelial cells are affected by extracellular matrix protein coating**

Sorkio, A., Hongisto, H., Kaarniranta, K., Uusitalo, H., Juuti-Uusitalo, K. & Skottman, H., 1 Feb 2014, In : Tissue Engineering Part A. 20, 3-4, p. 622-634 13 p.

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

### **A 3D Alzheimer's disease culture model and the induction of P21-activated kinase mediated sensing in iPSC derived neurons**

Zhang, D., Pekkanen-Mattila, M., Shahsavani, M., Falk, A., Teixeira, A. I. & Herland, A., Feb 2014, In : Biomaterials. 35, 5, p. 1420-1428 9 p.

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

### **Large-area arrays of three-dimensional plasmonic subwavelength-sized structures from azopolymer surface-relief gratings**

Moerland, R. J., Koskela, J. E., Kravchenko, A., Simberg, M., Van Der Vegte, S., Kaivola, M., Priimagi, A. & Ras, R. H. A., 1 Jan 2014, In : Materials Horizons. 1, 1, p. 74-80 7 p.

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

### **Stearate Modified Zinc-Aluminum Layered Double Hydroxides and Acrylonitrile Butadiene Rubber Nanocomposites**

Eshwaran, S. B., Basu, D., Kutlu, B., Leuteritz, A., Wagenknecht, U., Stöckelhuber, K. W., Naskar, K., Das, A. & Heinrich, G., Jan 2014, In : Polymer-Plastics Technology and Engineering. 53, 1, p. 65-73 9 p.

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

### **Repeated use of stable magnetic flocculant for efficient harvest of oleaginous *Chlorella* sp.**

Lee, K., Lee, S. Y., Praveenkumar, R., Kim, B., Seo, J. Y., Jeon, S. G., Na, J. G., Park, J. Y., Kim, D. M. & Oh, Y. K., 2014, In : Bioresource Technology. 167, p. 284-290 7 p.

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

**Direct observation of the collapse of the delocalized excess electron in water**

Savolainen, J., Uhlig, F., Ahmed, S., Hamm, P. & Jungwirth, P., 2014, In : Nature Chemistry. 6, 8, p. 697-701 5 p.

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

**Nickel-based HVOF coatings promoting high temperature corrosion resistance of biomass-fired power plant boilers**

Oksa, M., Auerkari, P., Salonen, J. & Varis, T., 2014, In : Fuel Processing Technology. 125, p. 236-245 10 p.

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

**Effect of non-rubber components of NR on the carbon nanotube (CNT) localization in SBR/NR blends**

Le, H. H., Parsekar, M., Ilich, S., Henning, S., Das, A., Stöckelhuber, K. W., Beiner, M., Ho, C. A., Adhikari, R., Wießner, S., Heinrich, G. & Radosch, H. J., 2014, In : Macromolecular Materials and Engineering. 299, 5, p. 569-582 14 p.

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

**Fabrication of 3-D nanodimensioned electric double layer capacitor structures using block copolymer templates**

Rasappa, S., Borah, D., Sentharamaikannan, R., Faulkner, C. C., Holmes, J. D. & Morris, M. A., 2014, In : Journal Nanoscience and Nanotechnology. 14, 7, p. 5221-5227 7 p.

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

**Magnetophoretic harvesting of oleaginous *Chlorella* sp. by using biocompatible chitosan/magnetic nanoparticle composites**

Lee, K., Lee, S. Y., Na, J. G., Jeon, S. G., Praveenkumar, R., Kim, D. M., Chang, W. S. & Oh, Y. K., Dec 2013, In : Bioresource Technology. 149, p. 575-578 4 p.

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

**Reversible biofunctionalization of surfaces with a switchable mutant of avidin**

Pollheimer, P., Taskinen, B., Scherfler, A., Gusenkov, S., Creus, M., Wiesauer, P., Zauner, D., Schöfberger, W., Schwarzinger, C., Ebner, A., Tampé, R., Stutz, H., Hytönen, V. P. & Gruber, H. J., 16 Oct 2013, In : Bioconjugate Chemistry. 24, 10, p. 1656-1668 13 p.

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

**Mechanisms of acceleration and retardation of water dynamics by ions**

Stirnemann, G., Wernersson, E., Jungwirth, P. & Laage, D., 14 Aug 2013, In : Journal of the American Chemical Society. 135, 32, p. 11824-11831 8 p.

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

**Development and characterization of poly( $\epsilon$ -caprolactone) hollow fiber membranes for vascular tissue engineering**

Diban, N., Haimi, S., Bolhuis-Versteeg, L., Teixeira, S., Miettinen, S., Poot, A., Grijpma, D. & Stamatialis, D., 1 Jul 2013, In : Journal of Membrane Science. 438, p. 29-37 9 p.

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)**

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

**Screening pretreatment methods to enhance thermophilic anaerobic digestion of pulp and paper mill wastewater treatment secondary sludge**

Bayr, S., Kaparaju, P. & Rintala, J., 1 May 2013, In : Chemical Engineering Journal. 223, p. 479-486 8 p.

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

**Immobilized bioactive agents onto polyurethane surface with heparin and phosphorylcholine group**

Tan, M., Feng, Y., Wang, H., Zhang, L., Khan, M., Guo, J., Chen, Q. & Liu, J., May 2013, In : Macromolecular Research. 21, 5, p. 541-549 9 p.

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

**The sensitivity of random polymer brush-lamellar polystyrene-b-polymethylmethacrylate block copolymer systems to process conditions**

Borah, D., Rasappa, S., Senthamaraiannan, R., Shaw, M. T., Holmes, J. D. & Morris, M. A., 1 Mar 2013, In : Journal of Colloid and Interface Science. 393, 1, p. 192-202 11 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**

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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**

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

**A potential nonthrombogenic small-diameter vascular scaffold with polyurethane/poly(ethylene glycol) hybrid materials by electrospinning technique**

Wang, H., Feng, Y., Zhao, H., Fang, Z., Khan, M. & Guo, J., Feb 2013, In : Journal Nanoscience and Nanotechnology. 13, 2, p. 1578-1582 5 p.

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

**A 'clusters-in-liquid' method for calculating infrared spectra identifies the proton-transfer mode in acidic aqueous solutions**

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

**New reports on anti-bacterial and anti-candidal activities of fatty acid methyl esters (FAME) obtained from *Scenedesmus bijugatus* var. *bicellularis* biomass**

Mubarakali, D., Praveenkumar, R., Shenbagavalli, T., Mari Nivetha, T., Parveez Ahamed, A., Al-Dhabi, N. A. & Thajuddin, N., 28 Nov 2012, In : RSC Advances. 2, 30, p. 11552-11556 5 p.

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

**Influence of ionic liquids on the dielectric relaxation behavior of CNT based elastomer nanocomposites**

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

**Fabrication of ssDNA/oligo(ethylene glycol) monolayers and complex nanostructures by an irradiation-promoted exchange reaction**

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**Biomimetic surface modification of polycarbonateurethane film via phosphorylcholine-graft for resisting platelet adhesion**

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

**Impact of biodiesel application at various blending ratios on passenger cars of different fueling technologies**

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

**Molecular mechanisms of ion-specific effects on proteins**

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### **Structural characteristics and flammability of fire retarding EPDM/layered double hydroxide (LDH) nanocomposites**

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

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

### **Highly exfoliated natural rubber/Clay composites by "propping-open procedure": The influence of fatty-acid chain length on exfoliation**

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### **Human adipose tissue extract induces angiogenesis and adipogenesis in vitro**

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### **Osteogenic medium is superior to growth factors in differentiation of human adipose stem cells towards boneforming cells in 3D culture**

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### **Synthesis of depsipeptides from L-amino acids and lactones**

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#### **Versatile bio-ink for covalent immobilization of chimeric avidin on sol-gel substrates**

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#### **The effect of organic loading rate and retention time on hydrogen production from a methanogenic CSTR**

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

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#### **Two-stage anaerobic digestion of tomato, cucumber, common reed and grass silage in leach-bed reactors and upflow anaerobic sludge blanket reactors**

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#### **Osteoconductive properties of poly(96L/4D-lactide)/beta-tricalcium phosphate in long term animal model**

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#### **Chimeric avidin shows stability against harsh chemical conditions-biochemical analysis and 3D structure**

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#### **Effect of micro-aeration and leachate replacement on COD solubilization and VFA production during mono-digestion of grass-silage in one-stage leach-bed reactors**

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**Storing energy crops for methane production: Effects of solids content and biological additive**

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**Group-specific quantification of methanotrophs in landfill gas-purged laboratory biofilters by tyramide signal amplification-fluorescence in situ hybridization**

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**Biokalvojen rakenteen ja toiminnan simulointi tuo uutta tietoa rasvoista**

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**A Finite Cluster Approach to the Electron-Hole Pair Damping of the Adsorbate Vibration: CO Adsorbed on Cu(100)**

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### **Applications of nanocellulose/nanocarbon composites: Focus on biotechnology and medicine**

Bacakova, L., Pajorova, J., Tomkova, M., Matejka, R., Broz, A., Stepanovska, J., Prazak, S., Skogberg, A., Siljander, S. & Kallio, P., 2020, In : *Nanomaterials*. 10, 2, 32 p., 196.

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### **Understanding the Role of Lipids in Signaling Through Atomistic and Multiscale Simulations of Cell Membranes**

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

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

### **Liquid flame spray—a hydrogen-oxygen flame based method for nanoparticle synthesis and functional nanocoatings**

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

### **Recent advances in nutrient removal and recovery in biological and bioelectrochemical systems**

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

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### **Understanding selenium biogeochemistry in engineered ecosystems: Transformation and analytical methods**

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

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### **Ectopic Beat Detection from Wrist Optical Signals for Sinus Rhythm and Atrial Fibrillation Subjects**

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

### **Electrical stimulation of eye blink in individuals with dry eye symptoms caused by chronic unilateral facial palsy**

Lylykangas, J., Ilves, M., Venesvirta, H., Rantanen, V., Mäkelä, E., Vehkaoja, A., Verho, J., Lekkala, J., Rautiainen, M. & Surakka, V., 2019, *CMBEBIH 2019 - Proceedings of the International Conference on Medical and Biological Engineering*. Badnjevic, A., Gurbeta Pokvić, L., Škrbić, R., Badnjevic, A. & Gurbeta Pokvić, L. (eds.). Springer Verlag, p. 7-11 5 p. (IFMBE Proceedings; vol. 73).

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

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

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#### **Reproducible preparation method of hydrogels for cell culture applications – Case study with spermidine crosslinked gellan gum**

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#### **Computational model for multifocal imaging in optical projection tomography and numerical analysis of all-in-focus fusion in tomographic image reconstruction**

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#### **A strategy for dissecting the kinetics of transcription repression mechanisms**

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

#### **Nonlinear local projection filter for impedance pneumography**

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#### **Evaluation of the accuracy and reliability for photoplethysmography based heart rate and beat-to-beat detection during daily activities**

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#### **Wearable RFID perspiration sensor tags for well-being applications – From laboratory to field use**

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### **Impacts of laminin and polyethyleneimine surface coatings on morphology of differentiating human SH-SY5Y cells and networks**

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

### **Artificial eye blink pacemaker - A first investigation into the blink production using constant-interval electrical stimulation**

Lylykangas, J., Ilves, M., Venesvirta, H., Rantanen, V., Mäkelä, E., Vehkaoja, A., Verho, J., Lekkala, J., Rautiainen, M. & Surakka, V., 2018, *EMBEC and NBC 2017 - Joint Conference of the European Medical and Biological Engineering Conference EMBEC 2017 and the Nordic-Baltic Conference on Biomedical Engineering and Medical Physics, NBC 2017*. Springer Verlag, p. 522-525 4 p. (IFMBE Proceedings; vol. 65).

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### **Connectivity analysis of full montage EEG in traumatic brain injury patients in the ICU**

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### **Optical projection tomography imaging of single cells in 3D gellan gum hydrogel**

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### **Texture-property relations of bioamine crosslinked gellan gum hydrogels**

Koivisto, J. T., Koskela, O., Montonen, T., Parraga, J. E., Joki, T., Ylä-Outinen, L., Narkilahti, S., Figueiras, E., Hyttinen, J. & Kellomäki, M., 2018, *EMBEC and NBC 2017 - Joint Conference of the European Medical and Biological Engineering Conference EMBEC 2017 and the Nordic-Baltic Conference on Biomedical Engineering and Medical Physics, NBC 2017*. Springer Verlag, p. 189-192 4 p. (IFMBE Proceedings; vol. 65).

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

### **Low-latency EMG onset and termination detection for facial pacing**

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

### **Linearity of simultaneously recorded impedance pneumography and direct pneumotachography in thoracic surgery patients**

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### **Automated pipeline for brain ROI analysis with results comparable to previous freehand measures in clinical settings**

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

### **Correlation of depth of anesthesia indexes with MAC in volatile anesthesia**

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

### **Physical characteristics of collimators for dual-isotope imaging with $^{99m}\text{Tc}$ and $^{123}\text{I}$**

Tunninen, V., Kauppinen, T. & Eskola, H., 2018, *EMBEC and NBC 2017 - Joint Conference of the European Medical and Biological Engineering Conference EMBEC 2017 and the Nordic-Baltic Conference on Biomedical Engineering and Medical Physics, NBC 2017*. Springer Verlag, p. 245-249 5 p. (IFMBE Proceedings; vol. 65).

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

### **Optimization of $^{99m}\text{Tc}$ -sestamibi/ $^{123}\text{I}$ subtraction SPECT/CT protocol for parathyroid scintigraphy**

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

### **Nonlinear dynamics of heart rate variability in children with asthmatic symptoms**

Milagro, J., Gil, E., Bolea, J., Seppä, V. P., Malmberg, L. P., Pelkonen, A. S., Kotaniemi-Syrjänen, A., Mäkelä, M. J., Viik, J. & Bailón, R., 2018, *EMBEC and NBC 2017 - Joint Conference of the European Medical and Biological Engineering Conference EMBEC 2017 and the Nordic-Baltic Conference on Biomedical Engineering and Medical Physics, NBC 2017*. Springer Verlag, Vol. 65. p. 815-818 4 p. (IFMBE Proceedings; vol. 65).

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

### **Comparison of linear and non-linear heart rate variability indices between preterm infants at their theoretical term age and full term newborns**

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

### **Coronary artery disease diagnosis by means of heart rate variability analysis using respiratory information**

Hernando, D., Kähönen, M., Lázaro, J., Lehtinen, R., Nieminen, T., Nikus, K., Lehtimäki, T., Bailón, R. & Viik, J., 2018, *EMBEC and NBC 2017 - Joint Conference of the European Medical and Biological Engineering Conference EMBEC 2017 and the Nordic-Baltic Conference on Biomedical Engineering and Medical Physics, NBC 2017*. Springer Verlag, p. 270-273 4 p. (IFMBE Proceedings; vol. 65).

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

### **Finite element mapping for efficient image reconstruction in rotational electrical impedance tomography**

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**Atrial fibrillation detection from wrist photoplethysmography data using artificial neural networks**

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### **Day-to-day repeatability of the results of the finger-toe-plot analysis**

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**Optimal short distance electrode locations for impedance pneumography measurement from the frontal thoracic area**  
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**Nanoscale barrier coating on BOPP packaging film by ALD**

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

**Roll-to-roll application of photocatalytic TiO<sub>2</sub> nanoparticles for printed functionality**

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

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