

**Silver-Decorated TiO<sub>2</sub> Inverse Opal Structure for Visible Light-Induced Photocatalytic Degradation of Organic Pollutants and Hydrogen Evolution.** / Temerov, Filipp; Pham, Khai; Juuti, Paxton; Mäkelä, Jyrki M.; Grachova, Elena V.; Kumar, Santosh; Eslava, Salvador; Saarinen, Jarkko J.

In: ACS Applied Materials & Interfaces, Vol. 12, No. 37, 16.09.2020, p. 41200-41210.

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

**Enhancing piezoelectric properties of bacterial cellulose films by incorporation of MnFe<sub>2</sub>O<sub>4</sub> nanoparticles.** / Sriplai, Nipaporn; Mangayil, Rahul; Pammo, Arno; Santala, Ville; Tuukkanen, Sampo; Pinitsoontorn, Supree.

In: Carbohydrate Polymers, Vol. 231, 10.12.2019.

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

**Light-fuelled freestyle self-oscillators.** / Zeng, Hao; Lahikainen, Markus; Liu, Li; Ahmed, Zafar; Wani, Owies M.; Wang, Meng; Yang, Hong; Priimagi, Arri.

In: Nature Communications, Vol. 10, No. 1, 5057, 07.11.2019.

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

**Electronic couplings and rates of excited state charge transfer processes at poly(thiophene-co-quinoxaline)-PC<sub>71</sub>BM interfaces: two- versus multi-state treatments.** / Kastinen, Tuuva; da Silva Filho, Demetrio Antonio; Paunonen, Lassi; Linares, Mathieu; Ribeiro Junior, Luiz Antonio; Cramariuc, Oana; Hukka, Terttu I.

In: Physical Chemistry Chemical Physics, Vol. 21, No. 46, 01.11.2019, p. 25606-25625.

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

**Electronically Coupled Uranium and Iron Oxide Heterojunctions as Efficient Water Oxidation Catalysts.** / Leduc, Jennifer; Gönüllü, Yakup; Ruoko, Tero-Petri; Fischer, Thomas; Mayrhofer, Leonhard; Tkachenko, Nikolai V.; Dong, Chung-Li; Held, Alexander; Moseler, Michael; Mathur, Sanjay.

In: Advanced Functional Materials, 03.10.2019.

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

**Chemical Dissolution of Pt(111) During Potential Cycling Under Negative pH Conditions Studied by Operando X-ray Photoelectron Spectroscopy.** / Ali-Löytty, Harri; Valden, Mika; Hannula, Markku; Eilert, André; Ogasawara, Hirohito; Nilsson, Anders.

In: Journal of Physical Chemistry C, Vol. 123, No. 41, 25.09.2019, p. 25128-25134.

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

**Pinacol-Derived Chlorohydrosilane in Metal-Free Reductive Amination for the Preparation of Tertiary Alkylphenolmethyl Amines.** / Assoah, Benedicta; Veiros, Luis F.; R. Candeias, Nuno.

In: Organic Letters, Vol. 21, No. 5, 15.02.2019, p. 1402-1406.

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

**Microstructure-property relationships of novel ultra-high strength press hardening steels.** / Järvinen, Henri; Honkanen, Mari; Oja, Olli; Järvenpää, Martti; Peura, Pasi.

In: Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, Vol. 50, No. 2, 2019, p. 816-836.

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

**Composite Hydrogels Using Bioinspired Approach with in Situ Fast Gelation and Self-Healing Ability as Future Injectable Biomaterial.** / Khan, Musammir; Koivisto, Janne; Hukka, Terttu; Hokka, Mikko; Kellomäki, Minna.

In: ACS Applied Materials & Interfaces, Vol. 10, No. 14, 11.04.2018, p. 11950-11960.

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

**Economic analysis of hydrogen production by methane thermal decomposition : Comparison to competing technologies.** / Keipi, Tiina; Tolvanen, Henrik; Kontinen, Jukka.

In: Energy Conversion and Management, Vol. 159, 01.03.2018, p. 264-273.

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

**Charge Shift/Recombination and Triplet Formation in a Closely-Spaced Molecular Dyad based on a Borondipyromethene (Bodipy) and an Expanded Acridinium Cation.** / He, Xiaoyan; Benniston, Andrew C.; Lemmetyinen, Helge; Tkachenko, Nikolai V.

In: ChemPhotoChem, Vol. 2, No. 3, 03.2018, p. 277-282.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Entrapped Styrene Butadiene Polymer Chains by Sol-Gel-Derived Silica Nanoparticles with Hierarchical Raspberry Structures.** / Vaikuntam, Sankar Raman; Stöckelhuber, Klaus Werner; Subramani Bhagavatheswaran, Eshwaran; Wießner, Sven; Scheler, Ulrich; Saalwächter, Kay; Formanek, Petr; Heinrich, Gert; Das, Amit.

In: Journal of Physical Chemistry B, Vol. 122, No. 6, 15.02.2018, p. 2010-2022.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Valorization of Finnish mining tailings for use in the ceramics industry.** / Solismaa, Soili; Ismailov, Arnold; Karhu, Marjaana; Sreenivasan, Harisankar; Lehtonen, Marja; Kinnunen, Päivö; Illikainen, Mirja; Räisänen, Marja-Liisa.

In: BULLETIN OF THE GEOLOGICAL SOCIETY OF FINLAND, Vol. 90, No. 1, 2018, p. 33-54.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Convenient extraction method for quantification of thin zinc patina layers.** / Saarimaa, Ville; Kaleva, Aaretti; Paunikallio, Teemu; Nikkanen, Juha-Pekka; Heinonen, Saara; Levänen, Erkki; Väisänen, Pasi; Markkula, Antti.

In: Surface and Interface Analysis, Vol. 50, No. 5, 2018, p. 564-570.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Noncovalent functionalization of reduced graphene oxide with pluronic F127 and its nanocomposites with gum arabic.** / Layek, Rama K.; Uddin, Md Elias; Kim, Nam Hoon; Tak Lau, Alan Kin; Lee, Joong Hee.

In: Composites Part B : Engineering, Vol. 128, 01.11.2017, p. 155-163.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Methane thermal decomposition in regenerative heat exchanger reactor: Experimental and modeling study.** / Keipi, Tiina; Li, Tian; Løvås, Terese; Tolvanen, Henrik; Konttinen, Jukka.

In: Energy, Vol. 135, 15.09.2017, p. 823-832.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Tailored Fabrication of Transferable and Hollow Weblike Titanium Dioxide Structures.** / Hiltunen, Arto; Lahtonen, Kimmo; Saari, Jesse; Ojanperä, Anniina; Sarlin, Essi; Wondraczek, Holger; Efimov, Alexander; Kaunisto, Kimmo; Vivo, Paola; Maccato, Chiara; Barreca, Davide; Fardim, Pedro; Tkachenko, Nikolai; Valden, Mika; Lemmetyinen, Helge.

In: ChemPhysChem, Vol. 18, 2017, p. 64-71.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Engineering and Characterization of Bacterial Nanocellulose Films as Low Cost and Flexible Sensor Material.** / Mangayil, Rahul; Rajala, Satu; Pammo, Arno; Sarlin, Essi; Luo, Jin; Santala, Ville; Karp, Matti; Tuukkanen, Sampo.

In: ACS Applied Materials & Interfaces, Vol. 9, No. 22, 2017, p. 19048-19056.  
Research output: Contribution to journal > Article > Scientific > peer-review

**On the effect of deformation twinning and microstructure to strain hardening of high manganese austenitic steel 3D microstructure aggregates at large strains.** / Lindroos, Matti; Laukkanen, Anssi; Cailletaud, Georges; Kuokkala, Veli-Tapani.

In: International Journal of Solids and Structures, Vol. 125, 2017, p. 68-76.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Characterization of endoglucanase rich Trichoderma reesei cellulase mixtures and their effect on alkaline solubility of dissolving pulp.** / Kampuri, Taina; Vehviläinen, Marianna; Backfolk, Kaj; Heiskanen, Isto.

In: Cellulose, Vol. 23, No. 6, 12.2016, p. 3901-3911.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Photocatalytic and antibacterial properties of ZnO films with different surface topographies on stainless steel substrate.** / Heinonen, Saara; Kannisto, Matti; Nikkanen, Juha-Pekka; Huttunen-Saarivirta, Elina; Karp, Matti; Levänen, Erkki.

In: Thin Solid Films, Vol. 616, 01.10.2016, p. 842-849.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Thermo-catalytic decomposition of methane : The effect of reaction parameters on process design and the utilization possibilities of the produced carbon.** / Keipi, Tiina; Tolvanen, Katariina E.S.; Tolvanen, Henrik; Konttinen, Jukka.

In: Energy Conversion and Management, Vol. 126, 10.2016, p. 923-934.

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

**Sustainable nutrients recovery and recycling by optimizing the chemical addition sequence for struvite precipitation from raw swine slurries.** / Taddeo, Raffaele; Kolppo, Kari; Lepistö, Raghida.

In: Journal of Environmental Management, Vol. 180, 15.09.2016, p. 52-58.

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

**Improving Recovery Boiler Availability through Understanding Fume Behavior.** / Leppänen, Aino; Välimäki, Erkki.

In: TAPPI Journal, Vol. 15, No. 3, 03.2016, p. 187-193.

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

**Techno-economic analysis of four concepts for thermal decomposition of methane: Reduction of CO<sub>2</sub> emissions in natural gas combustion.** / Keipi, Tiina; Hankalin, Ville; Nummelin, Jaakko; Raiko, Risto.

In: Energy Conversion and Management, Vol. 110, 2016, p. 1-12.

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

**Remarkable Dependence of the Final Charge Separation Efficiency on the Donor-Acceptor Interaction in Photoinduced Electron Transfer.** / Higashino, Tomohiro; Yamada, Tomoki; Yamamoto, Masanori; Furube, Akihiro; Tkachenko, Nikolai V.; Miura, Taku; Kobori, Yasuhiro; Jono, Ryota; Yamashita, Koichi; Imahori, Hiroshi.

In: Angewandte Chemie (International Edition), Vol. 55, No. 2, 2016, p. 629-633.

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

**Machine-coated starch-based dispersion coatings prevent mineral oil migration from paperboard.** / Koivula, Hanna M.; Jalkanen, Laura; Saukkonen, Esa; Ovaska, Sami-Seppo; Lahti, Johanna; Christophliemk, Hanna; Mikkonen, Kirsi S.

In: Progress in Organic Coatings, Vol. 99, 2016, p. 173-181.

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

**Corrosion products of carbonation induced corrosion in existing reinforced concrete facades.** / Köliö, Arto; Honkanen, Mari; Lahdensivu, Jukka; Vippola, Minnamari; Pentti, Matti.

In: Cement and Concrete Research, Vol. 78, 12.2015, p. 200-207.

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

**Enhanced pre-treatment of cellulose pulp prior to dissolution into NaOH/ZnO.** / Grönqvist, S.; Kamppuri, T.; Maloney, T.; Vehviläinen, M.; Liittä, T.; Suurnäkki, A.

In: Cellulose, Vol. 22, No. 6, 12.2015, p. 3981-3990.

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

**Cracking resistance of Cr<sub>3</sub>C<sub>2</sub>-NiCr and WC-Cr<sub>3</sub>C<sub>2</sub>-Ni thermally sprayed coatings under tensile bending stress.** /

Mayrhofer, Erwin; Janka, Leo; Mayr, Wolfgang Peter; Norpoth, Jonas; Rodriguez Ripoll, Manel; Gröschl, Martin.

In: Surface and Coatings Technology, Vol. 281, 15.11.2015, p. 169-175.

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

**The Effect of Phosphorus Exposure on Diesel Oxidation Catalysts-Part II : Characterization of Structural Changes by Transmission Electron Microscopy.** / Honkanen, Mari; Kärkkäinen, Marja; Heikkinen, Olli; Kallinen, Kauko; Kolli, Tanja; Huuhtanen, Mika; Lahtinen, Jouko; Keiski, Riitta L.; Lepistö, Toivo; Vippola, Minnamari.

In: Topics in Catalysis, Vol. 58, No. 14, 10.2015, p. 971-976.

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

**The Effect of Phosphorus Exposure on Diesel Oxidation Catalysts-Part I : Activity Measurements, Elementary and Surface Analyses.** / Kärkkäinen, Marja; Kolli, Tanja; Honkanen, Mari; Heikkinen, Olli; Huuhtanen, Mika; Kallinen, Kauko; Lepistö, Toivo; Lahtinen, Jouko; Vippola, Minnamari; Keiski, Riitta L.

In: Topics in Catalysis, Vol. 58, No. 14, 10.2015, p. 961-970.

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

**Measuring synthesis yield in graphene oxide synthesis by modified hummers method.** / Frankberg, Erkka J.; George, Lijo; Efimov, Alexander; Honkanen, Mari; Pessi, Jenni; Levänen, Erkki.

In: Fullerenes Nanotubes and Carbon Nanostructures, Vol. 23, No. 9, 02.09.2015, p. 755-759.

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

**Coating of Silica and Titania Aerosol Nanoparticles by Silver Vapor Condensation.** / Harra, Juha; Juuti, Paxton; Haapanen, Janne; Sorvali, Miika; Roumeli, Eleftheria; Honkanen, Mari; Vippola, Minnamari; Yli-Ojanperä, Jaakko; Mäkelä, Jyrki M.

In: Aerosol Science and Technology, Vol. 49, No. 9, 02.09.2015, p. 767-776.

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

**Electrospun Black Titania Nanofibers : Influence of Hydrogen Plasma-Induced Disorder on the Electronic Structure and Photoelectrochemical Performance.** / Lepcha, A.; Maccato, C.; Mettenbörger, A.; Andreu, T.; Mayrhofer, L.; Walter, M.; Olthof, S.; Ruoko, T. P.; Klein, A.; Moseler, M.; Meerholz, K.; Morante, J. R.; Barreca, D.; Mathur, S.

In: Journal of Physical Chemistry C, Vol. 119, No. 33, 20.08.2015, p. 18835-18842.

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

**Low temperature temporal and spatial atomic layer deposition of TiO<sub>2</sub> films.** / Aghaee, Morteza; Maydannik, Philipp S.; Johansson, Petri; Kuusipalo, Jurkka; Creatore, Mariadriana; Homola, Tomas; Cameron, David C.

In: Journal of Vacuum Science & Technology A, Vol. 33, No. 4, 041512, 07.2015.

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

**Dissolution of enzyme-treated cellulose using freezing thawing method and the properties of fibres regenerated from the solution.** / Vehviläinen, Marianna; Kamppuri, Taina; Grönqvist, Stina; Rissanen, Marja; Maloney, Thaddeus; Honkanen, Mari; Nousiainen, Pertti.

In: Cellulose, Vol. 22, No. 3, 06.2015, p. 1653-1674.

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

**Impact of mechanical and enzymatic pretreatments on softwood pulp fiber wall structure studied with NMR spectroscopy and X-ray scattering.** / Virtanen, Tommi; Penttilä, Paavo A.; Maloney, Thaddeus C.; Grönqvist, Stina; Kamppuri, Taina; Vehviläinen, Marianna; Serimaa, Ritva; Maunu, Sirkka Liisa.

In: Cellulose, Vol. 22, No. 3, 06.2015, p. 1565-1576.

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

**High temperature oxidation tests for the high velocity solution precursor flame sprayed manganese-cobalt oxide spinel protective coatings on SOFC interconnector steel.** / Puranen, Jouni; Laakso, Jarmo; Honkanen, Mari; Heinonen, Saara; Kylmälahti, Mikko; Lugowski, Stan; Coyle, Thomas W.; Kesler, Olivera; Vuoristo, Petri.

In: International Journal of Hydrogen Energy, Vol. 40, No. 18, 18.05.2015, p. 6216-6227.

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

**Preferential Attachments of Organic Dyes onto {101} Facets of TiO<sub>2</sub> Nanoparticles.** / Diao, Feiyu; Liang, Wenshuang; Tian, Fenghui; Wang, Yiqian; Vivo, Paola; Efimov, Alexander; Lemmetyinen, Helge.

In: Journal of Physical Chemistry C, Vol. 119, No. 16, 23.04.2015, p. 8960-8965.

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

**Fermentative metabolism of an anaerobic, thermophilic consortium on plant polymers and commercial paper samples.** / Carver, Sarah M.; Nelson, Michael C.; Yu, Zhongtang; Tuovinen, Olli H.

In: Biomass & Bioenergy, Vol. 75, 01.04.2015, p. 11-22.

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

**Effect of rheological properties of dissolved cellulose/microfibrillated cellulose blend suspensions on film forming.** / Saarikoski, Eve; Rissanen, Marja; Seppälä, Jukka.

In: Carbohydrate Polymers, Vol. 119, 30.03.2015, p. 62-70.

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.

In: *New Journal of Chemistry*, Vol. 39, No. 1, 01.01.2015, p. 746-749.

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

**High-temperature slurry erosion of vinylester matrix composites – The effect of test parameters.** / Sarlin, Essi Linnea; Lindgren, Mari; Suihkonen, Reija Johanna; Siljander, Sanna Maria Kaarina; Kakkonen, Markus Matti Samuel; Vuorinen, Jyrki Erik.

In: *Wear*, Vol. 328-329, 2015, p. 488-497.

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

**Synthesis, crystal structure, spectral, dielectric characteristics and conduction mechanism of two novel carboxylates of 1-benzhydrylpiperazine.** / Wacharine, Intissar; Valkonen, Arto; Rzaigui, Mohamed; Smirani, Wajda.

In: *Monatshefte fur Chemie*, Vol. 146, No. 12, 2015, p. 2007-2020.

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

**Effect of alkali and silane surface treatments on regenerated cellulose fibre type (Lyocell) intended for composites.** /

Ramamoorthy, Sunil Kumar; Skrifvars, Mikael; Rissanen, Marja.

In: *Cellulose*, Vol. 22, No. 1, 2015, p. 637-654.

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

**The effect of the outermost fibre layers on solubility of dissolving grade pulp.** / Grönqvist, S.; Treimanis, A.; Kampuri, T.; Maloney, T.; Skute, M.; Grinfelds, U.; Vehviläinen, M.; Suurnäkki, A.

In: *Cellulose*, Vol. 22, No. 6, 2015, p. 3955-3965.

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

**From partial to complete optical erasure of azobenzene-polymer gratings: effect of molecular weight.** / Vapaavuori, Jaana; Ras, Robin H. A.; Kaivola, Matti; Bazuin, C. Geraldine; Priimägi, Arri.

In: *Journal of Materials Chemistry C*, Vol. 3, No. 42, 2015, p. 11011-11016.

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

**N-Alkyl ammonium resorcinarene salts : multivalent halogen-bonded deep-cavity cavitands.** / Beyeh, N. Kodiah; Valkonen, Arto; Bhowmik, Sandip; Pan, Fangfang; Rissanen, K.

In: *Organic chemistry frontiers*, Vol. 2, No. 4, 2015, p. 340-345.

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

**Numerical modeling of fine particle and deposit formation in a recovery boiler.** / Leppänen, A.; Tran, Honghi; Taipale, Raili; Välimäki, Erkki; Oksanen, A.

In: *Fuel*, Vol. 129, 01.08.2014, p. 45-53.

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

**Creation of superhydrophilic surfaces of paper and board.** / Tuominen, Mikko; Teisala, Hannu; Aromaa, Mikko; Stepien, Milena; Mäkelä, Jyrki M.; Saarinen, Jarkko J.; Toivakka, Martti; Kuusipalo, Jurkka.

In: *Journal of Adhesion Science and Technology*, Vol. 28, No. 8-9, 2014, p. 864-879.

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

**The effects of UV irradiation to polyetheretherketone fibres : Characterization by different techniques.** / Mylläri, Ville; Ruoko, Tero Petri; Järvelä, Pentti.

In: *Polymer Degradation and Stability*, Vol. 109, 2014, p. 278-284.

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

**Improving the extensibility, wet web and dry strength of paper by addition of agar.** / Vishtal, Alexey; Retulainen, Elias.

In: *Nordic Pulp and Paper Research Journal*, Vol. 29, No. 3, 2014, p. 434-443.

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

**Modelling fume deposit growth in recovery boilers: effect of flue gas and deposit temperature.** / Leppänen, Aino; Tran, Honghi; Välimäki, Erkki; Oksanen, Antti.

In: Journal of Science and Technology for Forest Products and Processes, Vol. 4, No. 1, 2014, p. 50-57.

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

**The effect of flame treatment on surface properties and heat sealability of low-density polyethylene coating.** / Tuominen, Mikko; Ek, Mikael; Saloranta, Pauliina; Toivakka, Martti; Kuusipalo, Jurkka.

In: Packaging Technology and Science, Vol. 26, No. 4, 2013, p. 201-214.

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

**High- and low-adhesive superhydrophobicity on the liquid flame spray-coated board and paper: structural effects on surface wetting and transition between the low- and high-adhesive states.** / Teisala, Hannu; Tuominen, Mikko; Aromaa, Mikko; Stepien, Milena; Mäkelä, Jyrki M.; Saarinen, Jarkko J.; Toivakka, Martti; Kuusipalo, Jurkka.

In: Colloid and Polymer Science, Vol. 291, No. 2, 2013, p. 447-455.

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

**Wettability conversion on the liquid flame spray generated superhydrophobic TiO<sub>2</sub> nanoparticle coating on paper and board by photocatalytic decomposition of spontaneously accumulated carbonaceous overlayer.** / Teisala, Hannu; Tuominen, Mikko; Stepien, Milena; Haapanen, Janne; Mäkelä, Jyrki M.; Saarinen, Jarkko J.; Toivakka, Matti; Kuusipalo, Jurkka.

In: Cellulose, Vol. 20, No. 1, 2013, p. 391-408.

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

**Adhesion of Extrusion-Coated Polymer Sealing Layers to a Fiber-Based Packaging Material with an Atomic Layer Deposited Aluminum Oxide Surface Coating.** / Lahtinen, Kimmo; Johansson, Petri; Kääriäinen, Tommi; Cameron, David C.

In: Polymer Engineering and Science, Vol. 52, No. 9, 2012, p. 1985-1990.

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

**Nanostructures Increase Water Droplet Adhesion on Hierarchically Rough Superhydrophobic Surfaces.** / Teisala, Hannu; Tuominen, Mikko; Aromaa, Mikko; Stepien, Milena; Mäkelä, Jyrki M.; Saarinen, Jarkko J.; Toivakka, Martti; Kuusipalo, Jurkka.

In: Langmuir, Vol. 28, No. 6, 2012, p. 3138-3145.

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

**Top layer coatability on barrier coatings.** / Bollström, Roger; Tuominen, Mikko; Määttä, Anni; Peltonen, Jouko; Toivakka, Martti.

In: Progress in Organic Coatings, Vol. 73, No. 1, 2012, p. 26-32.

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

**Toward more controlled, nanoscale barrier layers in packaging.** / Lahtinen, Kimmo; Johansson, Petri; Kääriäinen, Tommi; Maydannik, Philipp; Cameron, David; Kuusipalo, Jurkka.

In: Plastics Research Online, No. 17th August, 2012, p. 1-3.

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

**Atmospheric synthesis of superhydrophobic TiO<sub>2</sub> nanoparticle deposits in a single step using Liquid Flame Spray.** / Aromaa, Mikko; Arffman, Anssi; Suhonen, Heikki; Haapanen, Janne; Keskinen, Jorma; Honkanen, Mari; Nikkanen, Juha-Pekka; Levänen, Erkki; Messing, Maria; Deppert, Knut; Teisala, Hannu; Tuominen, Mikko; Kuusipalo, Jurkka; Stepien, Milena; Saarinen, Jarkko; Toivakka, Matti; Mäkelä, Jyrki M.

In: Journal of Aerosol Science, Vol. 52, 2012, p. 57-68.

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

**Surface chemical analysis of photocatalytic wettability conversion of TiO<sub>2</sub> nanoparticle coating.** / Stepien, Milena; Saarinen, Jarkko J.; Teisala, Hannu; Tuominen, Mikko; Aromaa, Mikko; Kuusipalo, Jurkka; Mäkelä, Jyrki M.; Toivakka, Matti.

In: Surface and Coatings Technology, Vol. 208, 2012, p. 73-79.

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

**Surface chemical characterization of nanoparticle coated paperboard.** / Stepien, Milena; Saarinen, Jarkko J.; Teisala, Hannu; Tuominen, Mikko; Aromaa, Mikko; Kuusipalo, Jurkka; Mäkelä, Jyrki M.; Toivakka, Martti.

In: Applied Surface Science, Vol. 258, No. 7, 2012, p. 3119-3125.

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

**Nanoparticle Deposition from Liquid Flame Spray onto Moving Roll-to-Roll Paperboard Material.** / Mäkelä, Jyrki M.; Aromaa, Mikko; Teisala, Hannu; Tuominen, Mikko; Stepien, Milena; Saarinen, Jarkko J.; Toivakka, Martti; Kuusipalo, Jurkka.

In: Aerosol Science and Technology, Vol. 45, No. 7, 2011, p. 827-837.

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

**Atomic layer deposition on polymer based flexible packaging materials: Growth characteristics and diffusion barrier properties.** / Kääriäinen, Tommi O.; Maydannik, Philipp; Cameron, David C.; Lahtinen, Kimmo; Johansson, Petri; Kuusipalo, Jurkka.

In: Thin Solid Films, Vol. 519, No. 10, 2011, p. 3146-3154.

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

**Utilisation of continuous atomic layer deposition process for barrier enhancement of extrusion-coated paper.** / Lahtinen, Kimmo; Maydannik, Philipp; Johansson, Petri; Kääriäinen, Tommi; Cameron, David C.; Kuusipalo, Jurkka.

In: Surface and Coatings Technology, Vol. 205, No. 15, 2011, p. 3916-3922.

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

**Effects of flame and corona treatment on extrusion coated paper properties.** / Tuominen, Mikko; Lahti, Johanna; Kuusipalo, Jurkka.

In: TAPPI Journal, Vol. 10, No. 10, 2011, p. 29-36.

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

**Adhesion Mechanism of Water Droplets on Hierarchically Rough Superhydrophobic Rose Petal Surface.** / Teisala, Hannu; Tuominen, Mikko; Kuusipalo, Jurkka.

In: Journal of Nanomaterials, Vol. 2011, 818707, 2011, p. 1-6.

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

**Digital imaging measurement of dense multiphase flows in industrial processes.** / Honkanen, Markus; Eloranta, Hannu; Saarenrinne, Pentti.

In: Flow Measurement and Instrumentation, Vol. 21, No. 1, 2010, p. 25-32.

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

**Bio-Hybrid Nanocomposite Coatings from Sonicated Chitosan and Nanoclay.** / Vartiainen, Jari; Tuominen, Mikko; Nättinen, Kalle.

In: Journal of Applied Polymer Science, Vol. 116, No. 6, 2010, p. 3638-3647.

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

**Effect of fibre properties on flocculation and fractionation of cellulosic fibres in dry state.** / Larkomaa, Jaakko; Niinimäki, Jouko; Honkanen, Markus; Hanif, Muhammad; Saarenrinne, Pentti.

In: Journal of Engineered Fibers and Fabrics, Vol. 5, No. 1, 2010, p. 1-10.

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

**The name of the thesis: Atmospheric Plasma Treatment in Extrusion Coating, Topic: The Effect of Flame Treatment on the Sealability of Extrusion Coated Paper.** / Tuominen, Mikko.

PaPSaT, International Doctoral Programme in Pulp and Paper Science and Technology in Finland, Yearbook 2011. ed. / S. Kärkkäinen. Espoo : Aalto University School of science and technology, 2011. p. 1-5.

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

**The name of the thesis: Surface Treatment in Extrusion Coating, Topic: The Influence of Corona and Flame Treatment on Sealability of Extrusion Coated Paper.** / Tuominen, Mikko.

PaPSaT, International Doctoral Programme in Pulp and Paper Science and Technology in Finland, Yearbook 2010. ed. / S. Kärkkäinen. 2010. p. 1-5.

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

**Influence of Atmospheric Plasma Treatment on Surface Properties and Inkjet Printability of Plastic Packaging Film. /**

Lahti, Johanna; Eiroma, Kim; Tenhunen, Tiia-Maria; Pykönen, Maiju; Toivakka, Martti.

Advances in Printing and Media Technology. ed. / Nils Enlund; Mladen Lovrecek. 2010. p. 197-203.

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

**Solution Modified Fumed Silica and Its Effect on Charge Trapping Behavior of PP/POE/Silica Nanodielectrics. /**

Mahtabani, Amirhossein; Rytöluoto, Ilkka; He, Xiaozhen; Saarimäki, Eetta; Lahti, Kari; Paajanen, Mika; Anyszka, Rafal; Dierkes, Wilma; Blume, Anke.

Proceedings of the 26th Nordic Insulation Symposium . NTNU, Norway : Nordic Insulation Symposium, 2019. p. 129-133 (Proceedings of the Nordic Insulation Symposium ).

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

**High performance wear and corrosion resistant coatings by novel cladding techniques. /** Tuominen, J.; Näkki, J.;

Pajukoski, H.; Nyssönen, T.; Ristonen, T.; Peltola, T.; Vuoristo, P.

Surface Modification Technologies XXVIII: Proceedings of the 28th International Conference on Surface Modification Technologies. ed. / T.S. Sudarshan; P. Vuoristo; H. Koivuluoto. Valardocs, 2015. p. 105-117.

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

**Simulation of ash-forming compounds in the kraft recovery boiler. /** Leppänen, A.; Välimäki, E.; Oksanen, A.

10th European Conference on Industrial Furnaces and Boilers. Porto, Portugal, 2015.

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

**Corrosion propagation phase studies on Finnish reinforced concrete facades. /** Köliö, Arto ; Honkanen, Mari ; Lahdensivu, Jukka .

1st International Symposium on Building Pathology: ISBP 2015. Porto : FEUP Edicoes (Faculdade de Engenharia da Universidade do Porto Edicoes), 2015.

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

**Design driven world of cellulose-from bulk to luxury? /** Qvintus, Pia; Kataja, Kirsi; Heikkilä, Pirjo; Salmela, Juha;

Lehmonen, Jani; Ketoja, Jukka; Hänninen, Tuomas; Harlin, Ali; Härkäsalmi, Tiina; Vuorinen, Jyrki; Vuorinen, Tapani.

Fibre Value Chain Conference and Expo 2014: Pulp and Paper Bioenergy Bioproducts. Appita Inc., 2014. p. 67-74.

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

**The Effect of ELF electric fields on Implantable Cardioverter Defibrillators (ICD). /** Gonzalez, Jarold A.; Tarao, Hiroo; Korpinen, Leena.

The Bioelectromagnetics Society 34th Annual Meeting, June 17, 2012 - June 22, 2012, Brisbane, Australia. The Bioelectromagnetics Society, 2012. p. 104-106 (The Bioelectromagnetics Society Annual Meeting).

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

**The effects of coating structure and water-holding capacity on the oxygen-scavenging capacity of enzymes embedded in the coating layer. /** Johansson, Kristin; Christophliemk, Hanna; Johansson, Caisa; Jönsson, Leif J.; Järnström, Lars.

12th TAPPI Advanced Coating Fundamentals Symposium Proceedings, September 10-12, 2012, Atlanta, USA. TAPPI, 2012. p. 57-69 (TAPPI Advanced Coating Fundamentals Symposium).

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

**Nanoscale surface processing of extrusion coated substrates and plastic films with atmospheric plasma activation and deposition. /** Lahti, Johanna; Lavonen, Juho.

TAPPI PLACE Conference 2012, Helping Me Do My Job Better, Seattle, Washington, USA, 6-9 May 2012. TAPPI Press; Curran Associates, Inc, 2012. p. 588-600 (TAPPI PLACE Conference).

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

**Flame deposition of superhydrophobic and superhydrophilic nanoparticle coating on paperboard materials. /** Aromaa,

Mikko; Haapanen, Janne; Teisala, Hannu; Tuominen, Mikko; Kuusipalo, Jurkka; Stepien, M.; Saarinen, J.J.; Toivakka, M.; Mäkelä, Jyrki M.



Nanotechnology 2012: Advanced Materials, CNTs, Particles, Films and Composites - 2012 NSTI Nanotechnology Conference and Expo, NSTI-Nanotech 2012, Santa Clara, CA, USA, 18-21 June 2012. Nano Science and Technology Institute NSTI, 2012. p. 365-367 (Nanotechnology Conference and Expo Nanotech).

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

**Top layer coatability on barrier coatings.** / Bollström, Roger; Tuominen, Mikko; Määttä, Anni; Peltonen, Jouko; Toivakka, Martti.

TAPPI's PaperCon 2011, May 1-4, 2011, Covington, KY, USA. Paper 360 - Special PaperCon Edition. Norcross, GA : TAPPI, 2011. p. 1-11 (TAPPI International Conference Papercon).

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

**Atmospheric Plasma Treatment of Plastic Packaging Film: Effects on Surface Properties and UV Inkjet Printability.** / Lahti, Johanna; Eiroma, Kim; Tenhunen, Tiia-Maria; Pykönen, Maiju; Toivakka, Martti; Tuominen, Mikko.

13th TAPPI European PLACE Conference, Bregenz, Austria, 30 May - 1 June, 2011. Norcross, GA : TAPPI, 2011. p. 1-31 (TAPPI European PLACE Conference).

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

**Nanoscale Surface Processing of Extrusion Coated Substrates and Plastic Films with Atmospheric Plasma Activation and Deposition.** / Lahti, Johanna; Lavonen, Juho.

Novel nanostructured polymeric materials for food packaging and beyond, International COST Workshop, Espoo, Finland, September 15-16, 2011. VTT Symposium. ed. / Mika Vähä-Nissi. Espoo : VTT, 2011. p. 29-30 (International COST Workshop; Vol. 270).

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

**Effect of Pigment Volume Concentration and Drying Aspects on the Enzyme Activity of Clay Coatings.** / Johansson, Kristin; Christophliemk, Hanna; Jönsson, Leif J.; Järnström, Lars.

11th Advanced Coating Fundamentals Symposium Proceedings, The Latest Advances in Coating Research and Development, 11-13 October 2010, Munich, Germany. USA : TAPPI Press, 2010. p. 129-143 (TAPPI Advanced Coating Fundamentals Symposium).

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

**Two-phase PIV/PTV measurement of bubbly flow across pin fins in a micro-channel.** / Honkanen, Markus; Jung, J.; Kuo, C. J.; Peles, Y.; Amitay, M.

7th International Conference on Multiphase Flow ICMF2010, May 30 - June 4, 2010, Tampa, Florida. 2010. p. 1-9.

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

**Development of sustainable paper coatings using nanoscale industrial.** / Markert, F.; Breedveld, L.; Lahti, Johanna; Vangeneugden, D.

i-SUP 2010, Innovation for Sustainable Production, Conference 4, Materials for Sustainable Production, Bruges, Belgium, 18-21 April, 2010. 2010. p. 80-84.

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

**Image based measurement of particle phase reynolds stresses in a laboratory scale circulating fluidized bed.** / Peltola, J.; Kallio, S.; Honkanen, Markus; Saarenrinne, Pentti.

7th International Conference on Multiphase Flow ICMF2010, May 30 - June 4, 2010, Tampa, Florida. 2010. p. 1-9.

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

**Diffusion of acidic solution through rubber at high temperature and its effect on metal-rubber interface degradation.** /

Sarlin, Essi; Rosling, Ari; Mustakangas, Mirva; Laihonon, Paavo; Lindgren, Mari; Vuorinen, Jyrki .

Proceedings of SAMPE Europe Conference. 2015.

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

**Research on icing behavior and ice adhesion testing of icephobic surfaces.** / Koivuluoto, Heli; Stenroos, Christian ; Ruohomaa, Riku ; Bolelli, Giovanni; Lusvarghi, Luca; Vuoristo, Petri.

16th International Workshop on Atmospheric Icing of Structures, IWAIS 2015, June 28-July 3, 2015, Uppsala, Sweden. 2015. p. 183-188.

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

**Two-component aerosol nanoparticle coating for paperboard on roll-to-roll process.** / Haapanen, J.; Aromaa, M.; Teisala, H.; Tuominen, M.; Stepien, M.; Saarinen, J.J.; Toivakka, M.; Kuusipalo, J.; Mäkelä, J.M.  
EAC-2012 Granada, European Aerosol Conference, 2-7 Sept 2012, Granada, Spain. EAA, AECTA, 2012. p. 1-1 (European Aerosol Conference EAC).

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

**Deposition of flame synthesised nanoparticles on paperboard surface.** / Aromaa, Mikko; Haapanen, Janne; Teisala, Hannu; Tuominen, Mikko; Kuusipalo, Jurkka; Stepien, M.; Saarinen, J.J.; Toivakka, M.; Mäkelä, Jyrki.  
NOSA & FAAR 2011, Nordic Aerosol Symposium, November 9-11, 2011, Tampere, Finland. Tampere : Nordic Society for Aerosol Research, 2011. p. 17-17 (Nordic Aerosol Symposium NOSA & FAAR).

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

**Atomic layer deposition process for barrier applications of flexible packaging.** / Johansson, Petri; Lahtinen, Kimmo; Kuusipalo, Jurkka; Kääriäinen, Tommi; Maydannik, Philipp; Cameron, David.  
TAPPI 2010 PLACE Conference, April 18-21, 2010, Albuquerque NM, USA. 2010. p. 1-12.

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

**The effect of physical adhesion promotion treatments on interfacial adhesion in cellulose-epoxy composite.** / Siljander, Sanna; Lehmonen, Jani; Tanaka, Atsushi; Ketoja, Jukka; Heikkilä, Pirjo; Lahti, Johanna; Sarlin, Essi; Vuorinen, Jyrki.  
Proceedings of the 20th International Conference on Composite Materials. 2015.

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

**Towards material excellence : Evaluation of Tekes' programmes on materials.** / Timonen, Juhani; Antikainen, Markku; Das, Amit; Sarlin, Essi; Vuorinen, Jyrki.  
Tekes, 2016. 61 p.

Research output: Book/Report › Commissioned report › Professional

**Anaerobic treatment and resource recovery from methanol rich waste gases and wastewaters.** / Eregowda, Tejaswini.  
Tampere University, 2019. 211 p. (Tampere University Dissertations).

Research output: Book/Report › Doctoral thesis › Collection of Articles

**Modeling Fume Particle Dynamics and Deposition with Alkali Metal Chemistry in Kraft Recovery Boilers.** / Leppänen, Aino.  
Tampere : Tampere University of Technology, 2015. 63 p. (Tampere University of Technology. Publication; Vol. 1273).

Research output: Book/Report › Doctoral thesis › Collection of Articles

**Titanium oxide based nanoparticles by laser ablation in supercritical carbon dioxide.** / Levänen, Erkki; Singh, Amandeep.  
2018. Paper presented at The 8th International Conference on Manipulation, Manufacturing and measurement on the Nanoscale, China.

Research output: Other conference contribution › Paper, poster or abstract › Scientific

**Utilization of CO<sub>2</sub> in modification of galvanized steel surface.** / Nikkanen, Juha-Pekka; Kaleva, Aaretti; Saarimaa, Ville; Honkanen, Mari; Vuorinen, Tommi; Heinonen, Saara; Väisänen, Pasi; Markkula, Antti; Huttunen-Saarivirta, Elina; Levänen, Erkki.

2018. Paper presented at The International Symposium on Inorganic and Environmental Materials 2018, Ghent, Belgium.

Research output: Other conference contribution › Paper, poster or abstract › Scientific