

#### **Photostable second-harmonic generation from a single KTiOPO<sub>4</sub> nanocrystal for nonlinear microscopy**

Le Xuan, L., Zhou, C., Slablab, A., Chauvat, D., Tard, C., Perruchas, S., Gacoïn, T., Villeval, P. & Roch, J-F., Sep 2008, In : *Small*. 4, 9, p. 1332-1336 5 p.

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

#### **Surface science analysis and surface modification methods for biomaterials research**

Kanninen, L., Jokinen, N., Lahtonen, K., Jussila, P., Ali-Löytty, H., Hirsimäki, M., Leppiniemi, J., Hytönen, V., Kulomaa, M., Ahola, N., Paakinaho, K., Kellomäki, M. & Valden, M., 1 Jan 2010, In : *European Cells and Materials*. 20, SUPPL. 3, p. 133 1 p.

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

#### **Analysis of biomaterial scaffold fiber thickness for assessing cell attachment**

Aydogan, D. B., Hannula, M., Rajala, A., Pälli, A., Haimi, S., Kellomäki, M. & Hyttinen, J., 2011, *24th European Conference on Biomaterials - Annual Conference of the European Society for Biomaterials, ESB 2011*.

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

#### **Composites of poly(L-lactide-co-caprolactone) and tricalcium phosphate containing antibiotics; Degradation and drug release**

Ahola, N., Veiranto, M., Männistö, N. & Kellomäki, M., 2011, *24th European Conference on Biomaterials - Annual Conference of the European Society for Biomaterials, ESB 2011*.

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

#### **Effect of lactide monomer on the hydrolytic degradation and performance of melt processed poly(lactide-coglycolide) 85L/15G**

Paakinaho, K., Heino, H., Väisänen, J., Törmälä, P. & Kellomäki, M., 2011, *24th European Conference on Biomaterials - Annual Conference of the European Society for Biomaterials, ESB 2011*.

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

#### **HA composites of segmented polyurethanes prepared with glutamine or ascorbic acid as chain extenders for bone tissue regeneration**

Cetina-Diaz, S. M., Vargas-Coronado, R. F., Cervantes-Uc, J. M., Cauich-Rodríguez, J. V., Ahola, N., Paakinaho, K. & Kellomäki, M., 2011, *24th European Conference on Biomaterials - Annual Conference of the European Society for Biomaterials, ESB 2011*.

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

#### **Picosecond laser-induced polymerization of highly porous microscaffolds**

Käpylä, E., Aydogan, D. B., Turunen, S., Hyttinen, J. & Kellomäki, M., 2011, *24th European Conference on Biomaterials - Annual Conference of the European Society for Biomaterials, ESB 2011*.

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

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

Daculsi, G., Goyenvalle, E., Cognet, R., Aguado, E. & Suokas, E. O., Apr 2011, In : *Biomaterials*. 32, 12, p. 3166-3177 12 p.

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

#### **Focal Laser Ablation of Prostate Cancer: Numerical Simulation of Temperature and Damage Distribution**

Marqa, M. F., Colin, P., Nevoux, P., Mordon, S. R. & Betrouni, N., 2 Jun 2011, In : *BioMedical Engineering Online*. 10, 45.

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

#### **Hybrid nanoparticle design based on cationized gelatin and the polyanions dextran sulfate and chondroitin sulfate for ocular gene therapy**

Zorzi, G. K., Párraga, J. E., Seijo, B. & Sánchez, A., 7 Jul 2011, In : *MACROMOLECULAR BIOSCIENCE*. 11, 7, p. 905-913 9 p.

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

#### **Effects of bioactive glass S53P4 or beta-tricalcium phosphate and bone morphogenetic protein-2 and bone morphogenetic protein-7 on osteogenic differentiation of human adipose stem cells**

Waselau, M., Patrikoski, M., Juntunen, M., Kujala, K., Kääriäinen, M., Kuokkanen, H., Sándor, G. K., Vapaavuori, O., Suuronen, R., Mannerström, B., von Rechenberg, B. & Miettinen, S., 2012, In : *Journal of Tissue Engineering*. 3, 1, p. 1-14 14 p.

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

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

Tirkkonen, L., Haimi, S., Huttunen, S., Wolff, J., Pirhonen, E., Sándor, G. K. & Miettinen, S., 2012, In : *European Cells and Materials*. 25, p. 144-158 15 p.

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

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

Sarkanen, J. R., Kaila, V., Mannerström, B., Rätty, S., Kuokkanen, H., Miettinen, S. & Ylikomi, T., 1 Jan 2012, In : *Tissue Engineering Part A*. 18, 1-2, p. 17-25 9 p.

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

#### **Development of a new illumination procedure for photodynamic therapy of the abdominal cavity**

Cuyon, L., Lesage, J. C., Betrouni, N. & Mordon, S., Mar 2012, In : *JOURNAL OF BIOMEDICAL OPTICS*. 17, 3, 038001.

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

#### **Demonstration of increased lipid accumulation potential of *stigeoclonium* sp., Kütz. BUM11007 under nitrogen starved regime: A new source of lipids for biodiesel production**

Praveenkumar, R., Johncy, K., MubarakAli, D., Vijayan, D., Thajuddin, N. & Gunasekaran, M., Apr 2012, In : *Journal of Biobased Materials and Bioenergy*. 6, 2, p. 209-213 5 p.

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

#### **Halogen bonding versus hydrogen bonding in driving self-assembly and performance of light-responsive supramolecular polymers**

Priimagi, A., Cavallo, G., Forni, A., Gorynsztejn-Leben, M., Kaivola, M., Metrangolo, P., Milani, R., Shishido, A., Pilati, T., Resnati, G. & Terraneo, G., 20 Jun 2012, In : *Advanced Functional Materials*. 22, 12, p. 2572-2579 8 p.

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

#### **Mathematical modelling of the action potential of human embryonic stem cell derived cardiomyocytes**

Paci, M., Sartiani, L., Del Lungo, M., Jaconi, M., Mugelli, A., Cerbai, E. & Severi, S., 28 Aug 2012, In : *BioMedical Engineering Online*. 11, 61.

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

#### **Effect of sol-gel derived in situ silica on the morphology and mechanical behavior of natural rubber and acrylonitrile butadiene rubber blends**

Kapgate, B. P., Das, C., Das, A., Basu, D., Reuter, U. & Heinrich, G., Sep 2012, In : *JOURNAL OF SOL-GEL SCIENCE AND TECHNOLOGY*. 63, 3, p. 501-509 9 p.

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

#### **Hollow fibers of poly(lactide-co-glycolide) and poly( $\epsilon$ -caprolactone) blends for vascular tissue engineering applications**

Diban, N., Haimi, S., Bolhuis-Versteeg, L., Teixeira, S., Miettinen, S., Poot, A., Grijpma, D. & Stamatialis, D., 2013, In : *Acta Biomaterialia*. 9, 5, p. 6450-6458 9 p.

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

#### **Roll-to-roll atomic layer deposition for flexible substrates**

Lahtinen, K., Maydannik, P., Kääriäinen, T., Seppänen, T., Cameron, D. C., Johansson, P., Kraft, M. & Kuusipalo, J., 2013, *TAPPI International Conference on Nanotechnology 2013*. TAPPI Press, p. 726-739 14 p.

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

#### **Wear resistance of nanoparticle coatings on paperboard**

Stepien, M., Chinga-Carrasco, G., Saarinen, J. J., Teisala, H., Tuominen, M., Aromaa, M., Haapanen, J., Kuusipalo, J., Mäkelä, J. M. & Toivakka, M., 2013, *TAPPI International Conference on Nanotechnology 2013*. TAPPI Press, p. 821-829 9 p.

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

Borah, D., Rasappa, S., Senthamarikannan, 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

**Direct laser writing of microstructures for the growth guidance of human pluripotent stem cell derived neuronal cells**

Turunen, S., Käpylä, E., Lähteenmäki, M., Ylä-Outinen, L., Narkilahti, S. & Kellomäki, M., 2014, In : Optics and Lasers in Engineering. 55, p. 197-204 8 p.

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

**Three-dimensional growth matrix for human embryonic stem cell-derived neuronal cells**

Ylä-Outinen, L., Joki, T., Varjola, M., Skottman, H. & Narkilahti, S., 2014, In : Journal of Tissue Engineering and Regenerative Medicine. 8, 3, p. 186-194 9 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

**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

**Osteointegration of PLGA implants with nanostructured or micro-sized  $\beta$ -TCP particles in a minipig model**

Kulkova, J., Moritz, N., Suokas, E. O., Strandberg, N., Leino, K. A., Laitio, T. T. & Aro, H. T., 1 Dec 2014, In : Journal of the Mechanical Behavior of Biomedical Materials. 40, p. 190-200 11 p.

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

**Interstitial photodynamic therapy and glioblastoma: Light fractionation study on a preclinical model: Preliminary results**

Leroy, H. A., Vermandel, M., Tétard, M. C., Lejeune, J. P., Mordon, S. & Reyns, N., 2015, *Optical Techniques in Neurosurgery, Neurophotonics, and Optogenetics II*. SPIE, Vol. 9305. 93050D

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

**Stimuli-Responsive Materials Based on Interpenetrating Polymer Liquid Crystal Hydrogels**

Stumpel, J. E., Gil, E. R., Spoelstra, A. B., Bastiaansen, C. W. M., Broer, D. J. & Schenning, A. P. H. J., 2015, In : Advanced Functional Materials. 25, 22, p. 3314-3320

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

**Effects of chitosan and bioactive glass modifications of knitted and rolled polylactide-based 96/4L/D scaffolds on chondrogenic differentiation of adipose stem cells**

Ahtiainen, K., Sippola, L., Nurminen, M., Mannerström, B., Haimi, S., Suuronen, R., Hyttinen, J., Ylikomi, T., Kellomäki, M. & Miettinen, S., 1 Jan 2015, In : Journal of Tissue Engineering and Regenerative Medicine. 9, 1, p. 55-65 11 p.

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

**Rational design of a printable, highly conductive silicone-based electrically conductive adhesive for stretchable radio-frequency antennas**

Li, Z., Le, T., Wu, Z., Yao, Y., Li, L., Tentzeris, M., Moon, K. S. & Wong, C. P., 21 Jan 2015, In : Advanced Functional Materials. 25, 3, p. 464-470 7 p.

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

**Enhancement of adhesion and promotion of osteogenic differentiation of human adipose stem cells by poled electroactive poly(vinylidene fluoride)**

Parssinen, J., Hammarén, H., Rahikainen, R., Sencadas, V., Ribeiro, C., Vanhatupa, S., Miettinen, S., Lanceros-Méndez, S. & Hytönen, V. P., 1 Mar 2015, In : Journal of Biomedical Materials Research. Part A. 103, 3, p. 919-928 10 p.

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

**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

**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

**Comparison of three light doses in the photodynamic treatment of actinic keratosis using mathematical modeling**

Vignon-Dewalle, A. S., Betrouni, N., Tylcz, J. B., Vermandel, M., Mortier, L. & Mordon, S., 1 May 2015, In : JOURNAL OF BIOMEDICAL OPTICS. 20, 5, 058001.

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

**Dynamic piezoelectric stimulation enhances osteogenic differentiation of human adipose stem cells**

Ribeiro, C., Pärssinen, J., Sencadas, V., Correia, V., Miettinen, S., Hytönen, V. P. & Lanceros-Méndez, S., 1 Jun 2015, In : Journal of Biomedical Materials Research. Part A. 103, 6, p. 2172-2175 4 p.

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

**Soft graphoepitaxy for large area directed self-assembly of polystyrene-block-poly(dimethylsiloxane) block copolymer on nanopatterned POSS substrates fabricated by nanoimprint lithography**

Borah, D., Rasappa, S., Salaun, M., Zellsman, M., Lorret, O., Liontos, G., Ntetsikas, K., Avgeropoulos, A. & Morris, M. A., 1 Jun 2015, In : Advanced Functional Materials. 25, 22, p. 3425-3432 8 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

**Measuring optical anisotropy in poly(3,4-ethylene dioxithiophene): poly(styrene sulfonate) films with added graphene**

Isoniemi, T., Tuukkanen, S., Cameron, D. C., Simonen, J. & Toppari, J. J., 9 Jul 2015, In : Organic Electronics. 25, p. 317-323 7 p.

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

**Bioactive glass ions as strong enhancers of osteogenic differentiation in human adipose stem cells**

Ojansivu, M., Vanhatupa, S., Björkvik, L., Häkkänen, H., Kellomäki, M., Autio, R., Ihalainen, J. A., Hupa, L. & Miettinen, S., 15 Jul 2015, In : Acta Biomaterialia. 21, p. 190-203 14 p.

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

**Sol-gel synthesis of quaternary (P2O5)55-(CaO)25-(Na2O)(20-x)-(TiO2) x 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

**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

#### **Strontium- and calcium-containing, titanium-stabilised phosphate-based glasses with prolonged degradation for orthopaedic tissue engineering**

Al Qaysi, M., Walters, N. J., Foroutan, F., Owens, G. J., Kim, H. W., Shah, R. & Knowles, J. C., 24 Sep 2015, In : *Journal of Biomaterials Applications*. 30, 3, p. 300-310 11 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

#### **Preparation and antimicrobial characterization of silver-containing packaging materials for meat**

Kuuliala, L., Pippuri, T., Hultman, J., Auvinen, S-M., Kolppo, K., Nieminen, T., Karp, M., Björkroth, J., Kuusipalo, J. & Jääskeläinen, E., 1 Dec 2015, In : *Food Packaging and Shelf Life*. 6, p. 53-60 8 p., 67.

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

#### **Compatibilization of natural rubber/nitrile rubber blends by sol-gel nano-silica generated by in situ method**

Bansod, N. D., Kapgade, B. P., Das, C., Das, A., Basu, D. & Debnath, S. C., 2016, In : *JOURNAL OF SOL-GEL SCIENCE AND TECHNOLOGY*. 80, 2, p. 548-559 12 p.

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

#### **Improved properties for packaging materials by nanoscale surface modification and ALD barrier coating**

Lahti, J., Lavonen, J., Lahtinen, K., Johansson, P., Seppänen, T. & Cameron, D. C., 2016, *TAPPI International Conference on Nanotechnology for Renewable Materials 2016*. TAPPI Press, Vol. 2. p. 684-706 23 p.

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

#### **Uniform and electrically conductive biopolymer-doped polypyrrole coating for fibrous PLA**

Hiltunen, M., Pelto, J., Ellä, V. & Kellomäki, M., 2016, In : *Journal of Biomedical Materials Research. Part B: Applied Biomaterials*. 104, 8, p. 1721-1729

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

#### **Human Adipose Stem Cells Differentiated on Braided Poly(lactide) 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.

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

#### **Wetting hysteresis induced by temperature changes: Supercooled water on hydrophobic surfaces**

Heydari, G., Sedighi Moghaddam, M., Tuominen, M., Fielden, M., Haapanen, J., Mäkelä, J. M. & Claesson, P. M., 15 Apr 2016, In : *Journal of Colloid and Interface Science*. 468, p. 21-33 13 p.

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

#### **Effect of incorporation of CdS NPs on performance of PTB7: PCBM organic solar cells**

Sharma, R., Bhalerao, S. & Gupta, D., 1 Jun 2016, In : *Organic Electronics: physics, materials, applications*. 33, p. 274-280 7 p.

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

#### **Honeycomb porous films as permeable scaffold materials for human embryonic stem cell-derived retinal pigment epithelium**

Calejo, M. T., Ilmarinen, T., Jongprasitkul, H., Skottman, H. & Kellomäki, M., 1 Jul 2016, In : *Journal of Biomedical Materials Research. Part A*. 104, 7, p. 1646-1656 11 p.

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

**The influence of high-temperature sulfuric acid solution ageing on the properties of laminated vinyl-ester joints**

Lindgren, M., Wallin, M., Kakkonen, M., Saarela, O. & Vuorinen, J., 1 Jul 2016, In : International Journal of Adhesion and Adhesives. 68, p. 298-304 7 p.

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

**Simulation of developing human neuronal cell networks**

Lenk, K., Priwitzer, B., Ylä-Outinen, L., Tietz, L. H. B., Narkilahti, S. & Hyttinen, J. A. K., 30 Aug 2016, In : BioMedical Engineering Online. 15, 1, 105.

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

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

Will, O. M., Purcz, N., Chalaris, A., Heneweer, C., Boretius, S., Purcz, L., Nikkola, L., Ashammakhi, N., Kalthoff, H., Glüer, C. C., Wiltfang, J., Açil, Y. & Tiwari, S., 12 Oct 2016, In : International Journal of Nanomedicine. 11, p. 5311-5321 11 p.

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

**Biomaterials for Electronics**

Pammo, A., Schouten, M., Virtanen, J. & Tuukkanen, S., 25 Nov 2016, p. 1-1. 1 p.

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

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

Hyysalo, A., Ristola, M., Joki, T., Honkanen, M., Vippola, M. & Narkilahti, S., 2017, In : MACROMOLECULAR BIOSCIENCE. 17, 7, 1600517.

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

**Pipeline for effective denoising of digital mammography and digital breast tomosynthesis**

Borges, L. R., Bakic, P. R., Foi, A., Maidment, A. D. A. & Vieira, M. A. C., 2017, *Medical Imaging 2017: Physics of Medical Imaging*. SPIE, 1013206. (Progress in biomedical optics and imaging).

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

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

Koivisto, J. T., Joki, T., Parraga, J. E., Paakkönen, R., Ylä-Outinen, L., Salonen, L., Jönkkäri, I., Peltola, M., Ihalainen, T. O., Narkilahti, S. & Kellomäki, M., 24 Mar 2017, In : Biomedical Materials. 12, 2, 025014.

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

**Lead field theory provides a powerful tool for designing microelectrode array impedance measurements for biological cell detection and observation**

Bötttrich, M., Tanskanen, J. M. A. & Hyttinen, J. A. K., 26 Jun 2017, In : BioMedical Engineering Online. 16, 1, 85.

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

**Influence of strain rate, temperature and fatigue on the radial compression behaviour of Norway spruce**

Moilanen, C., Björkqvist, T., Ovaska, M., Koivisto, J., Miksic, A., Engberg, B. A., Salminen, L. I., Saarenrinne, P. & Alava, M., 27 Jun 2017, In : *Holzforschung*. 71, 6, p. 505-514 10 p.

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

**The production of injectable hydrazone crosslinked gellan gum-hyaluronan-hydrogels with tunable mechanical and physical properties**

Karvinen, J., Koivisto, J. T., Jönkkäri, I. & Kellomäki, M., 1 Jul 2017, In : Journal of the Mechanical Behavior of Biomedical Materials. 71, p. 383-391 9 p.

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

**The effect of equiaxial stretching on the osteogenic differentiation and mechanical properties of human adipose stem cells**

Virjula, S., Zhao, F., Leivo, J., Vanhatupa, S., Kreutzer, J., Vaughan, T. J., Honkala, A. M., Viehrig, M., Mullen, C. A., Kallio, P., McNamara, L. M. & Miettinen, S., 1 Aug 2017, In : Journal of the Mechanical Behavior of Biomedical Materials. 72, p. 38-48 11 p.

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

### **Multi-material bio-printing facilities**

Virtanen, J. & Tuukkanen, S., 26 Oct 2017. 1 p.

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

### **Azopolymer photopatterning for directional control of angiogenesis**

Fedele, C., De Gregorio, M., Netti, P. A., Cavalli, S. & Attanasio, C., 1 Nov 2017, In : *Acta Biomaterialia*. 63, p. 317-325 9 p.

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

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

Ojansivu, M., Wang, X., Hyvärri, L., Kellomäki, M., Hupa, L., Vanhatupa, S. & Miettinen, S., 2018, In : *European Cells and Materials*. 35, p. 53-71 19 p.

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

### **Light propagation analysis in nervous tissue for wireless optogenetic nanonetworks**

Wiratmadja, S., Johari, P., Balasubramaniam, S., Bae, Y., Stachowiak, M. K. & Jornet, J. M., 2018, *Optogenetics and Optical Manipulation 2018*. SPIE, 104820R

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

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

Åkerblom, M., Raunonen, P., Casella, E., Disney, M. I., Danson, F. M., Gaulton, R., Schofield, L. A. & Kaasalainen, M., 6 Apr 2018, In : *Interface Focus*. 8, 2, 20170045.

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

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

Kaasalainen, S., Åkerblom, M., Nevalainen, O., Hakala, T. & Kaasalainen, M., 6 Apr 2018, In : *Interface Focus*. 8, 2, 20170033.

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

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

Disney, M. I., Boni Vicari, M., Burt, A., Calders, K., Lewis, S. L., Raunonen, P. & Wilkes, P., 6 Apr 2018, In : *Interface Focus*. 8, 2, 20170048.

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

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

Kulju, S., Riegger, L., Koltay, P., Mattila, K. & Hyväluoma, J., 15 Jul 2018, In : *Journal of Colloid and Interface Science*. 522, p. 48-56 9 p.

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

### **Wound healing of human embryonic stem cell-derived retinal pigment epithelial cells is affected by maturation stage**

Abu Khamidakh, A. E., Rodriguez-Martinez, A., Kaarniranta, K., Kallioniemi, A., Skottman, H., Hyttinen, J. & Juuti-Uusitalo, K., 31 Jul 2018, In : *BioMedical Engineering Online*. 17, 1, 102.

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

### **A COMPARATIVE IN VITRO STUDY OF CELL GROWTH ON TEXTILE SCAFFOLDS FOR TISSUE ENGINEERING APPLICATIONS**

Kroon, M., Talvitie, E., Miettinen, S. & Kellomäki, M., 12 Sep 2018.

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

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

Pihlman, H., Keränen, P., Paakinaho, K., Linden, J., Hannula, M., Manninen, I. K., Hyttinen, J., Manninen, M. & Laitinen-Vapaavuori, O., 1 Oct 2018, In : *Journal of Materials Science: Materials in Medicine*. 29, 10, 156.

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

### **Cell response to round and star-shaped polylactide fibers**

Kroon, M., Talvitie, E., Miettinen, S. & Kellomäki, M., 23 Nov 2018.

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

### **Gas-foamed poly(lactide-co-glycolide) and poly(lactide-co-glycolide) with bioactive glass fibres demonstrate insufficient bone repair in lapine osteochondral defects**

Salonius, E., Muhonen, V., Lehto, K., Järvinen, E., Pyhältö, T., Hannula, M., Aula, A. S., Uppstu, P., Haaparanta, A. M., Rosling, A., Kellomäki, M. & Kiviranta, I., 2019, In : *Journal of Tissue Engineering and Regenerative Medicine*. 13, 3, p. 406-415 10 p.

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

### **Human Neural Tissues from Neural Stem Cells Using Conductive Biogel and Printed Polymer Microelectrode Arrays for 3D Electrical Stimulation**

Tomaskovic-Crook, E., Zhang, P., Ahtiainen, A., Kaisvu, H., Lee, C. Y., Beirne, S., Aqrave, Z., Svirskis, D., Hyttinen, J., Wallace, G. G., Travas-Sejdic, J. & Crook, J. M., 2019, In : *ADVANCED HEALTHCARE MATERIALS*. 1900425.

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

### **In-vitro dissolution characteristics and human adipose stem cell response to novel borophosphate glasses**

Mishra, A., Ojansivu, M., Autio, R., Vanhatupa, S., Miettinen, S. & Massera, J., 2019, (Accepted/In press) In : *Journal of Biomedical Materials Research - Part A*.

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

### **Nano-structured optical fibers made of glass-ceramics, and phase separated and metallic particle-containing glasses**

Veber, A., Lu, Z., Vermillac, M., Pigeonneau, F., Blanc, W. & Petit, L., 2019, In : *Fibers*. 7, 12, 29 p.

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

### **On the limit of superhydrophobicity: Defining the minimum amount of TiO<sub>2</sub> nanoparticle coating**

Haapanen, J., Aromaa, M., Teisala, H., Juuti, P., Tuominen, M., Sillanpää, M., Stepien, M., Saarinen, J. J., Toivakka, M., Kuusipalo, J. & Mäkelä, J. M., 2019, In : *Materials Research Express*. 6, 3, 035004.

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

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

Fliervoet, L. A. L., Lisitsyna, E. S., Durandin, N. A., Kotsis, I., Maas-Bakker, R. F. M., Yliperttula, M., Hennink, W. E., Vuorimaa-Laukkanen, E. & Vermonden, T., 2019, In : *Biomacromolecules*.

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

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

Reyes, G., Borghei, M., King, A. W. T., Lahti, J. & Rojas, O. J., 14 Jan 2019, In : *Biomacromolecules*. 20, 1, p. 502-514

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

### **Noise measurements from reconstructed digital breast tomosynthesis**

Vimieiro, R. B., Borges, L. R., Caron, R. F., Barufaldi, B., Bakic, P. R., Maidment, A. D. A. & Vieira, M. A. C., 1 Mar 2019, *Medical Imaging 2019: Physics of Medical Imaging*. Schmidt, T. G., Chen, G-H. & Bosmans, H. (eds.). SPIE, IEEE, 109480C. (Progress in Biomedical Optics and Imaging - Proceedings of SPIE; vol. 10948).

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

### **The Role of Temperature and Lipid Charge on Intake/Uptake of Cationic Gold Nanoparticles into Lipid Bilayers**

Lolicato, F., Joly, L., Martinez-Seara, H., Fragneto, G., Scoppola, E., Baldelli Bombelli, F., Vattulainen, I., Akola, J. & Maccarini, M., 7 Jun 2019, In : *Small*. 15, 23, 1805046.

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

### **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.



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

**3D Scaffolds of Polycaprolactone/Copper-Doped Bioactive Glass: Architecture Engineering with Additive Manufacturing and Cellular Assessments in a Coculture of Bone Marrow Stem Cells and Endothelial Cells**

Wang, X., Molino, B. Z., Pitkänen, S., Ojansivu, M., Xu, C., Hannula, M., Hyttinen, J., Miettinen, S., Hupa, L. & Wallace, G., 18 Jul 2019, In : ACS Biomaterials Science and Engineering. 5, 9, p. 4496-4510

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

**Characterisation and in vitro and in vivo evaluation of supercritical-CO<sub>2</sub>-foamed  $\beta$ -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.

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

**Bioactive glass ions for in vitro osteogenesis and microvascularization in gellan gum-collagen hydrogels**

Vuornos, K., Huhtala, H., Kääriäinen, M., Kuismanen, K., Hupa, L., Kellomäki, M. & Miettinen, S., 31 Aug 2019, In : Journal of Biomedical Materials Research - Part B Applied Biomaterials.

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

**Effect of melt-derived bioactive glass particles on the properties of chitosan scaffolds**

Faqhiri, H., Hannula, M., Kellomäki, M., Calejo, M. T. & Massera, J., 1 Sep 2019, In : JOURNAL OF FUNCTIONAL BIOMATERIALS. 10, 3, 38.

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

**Miniature CoCr laser welds under cyclic shear: Fatigue evolution and crack growth**

Kanerva, M., Besharat, Z., Pärnänen, T., Jokinen, J., Honkanen, M., Sarlin, E., Göthelid, M. & Schlenzka, D., 1 Nov 2019, In : Journal of the Mechanical Behavior of Biomedical Materials. 99, p. 93-103 11 p.

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

Häkkinen, A., Oliveira, S. M. D., Neeli-Venkata, R. & Ribeiro, A. S., 1 Dec 2019, In : Journal of the Royal Society Interface. 16, 161, 11 p., 20190507.

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**Backscattering-based wireless communication and power transfer to small biomedical implants**

Ukkonen, L., Sydänheimo, L., Ma, S. & Björninen, T., 2020, *Microfluidics, BioMEMS, and Medical Microsystems XVIII*. Gray, B. L. & Becker, H. (eds.). SPIE, 112350A. (Progress in Biomedical Optics and Imaging - Proceedings of SPIE; vol. 11235).

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

**Co-culture of human induced pluripotent stem cell-derived retinal pigment epithelial cells and endothelial cells on double collagen-coated honeycomb films**

Rebelo Calejo, T., Vuorenperä, H., Vuorimaa-Laukkanen, E., Kallio, P., Aalto-Setälä, K., Miettinen, S., Skottman, H., Kellomäki, M. & Juuti-Uusitalo, K., 2020, In : Acta Biomaterialia. 101, p. 327-343 17 p.

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

**Toward Rigorous Materials Production: New Approach Methodologies Have Extensive Potential to Improve Current Safety Assessment Practices**

Nymark, P., Bakker, M., Dekkers, S., Franken, R., Fransman, W., García-Bilbao, A., Greco, D., Gulumian, M., Hadrup, N., Halappanavar, S., Hongisto, V., Hougaard, K. S., Jensen, K. A., Kohonen, P., Koivisto, A. J., Dal Maso, M., Oosterwijk, T., Poikkimäki, M., Rodriguez-Llopis, I., Stierum, R., Sørli, J. B. & Grafström, R., 2020, In : Small. 16, 6, 13 p., 1904749.

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

**Cell adhesion and culture medium dependent changes in the high frequency mechanical vibration induced proliferation, osteogenesis, and intracellular organization of human adipose stem cells**

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**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.

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