

**Compacted bentonite as a source of substrates for sulfate-reducing microorganisms in a simulated excavation-damaged zone of a spent nuclear fuel repository**

Maanoja, S., Lakaniemi, A. M., Lehtinen, L., Salminen, L., Auvinen, H., Kokko, M., Palmroth, M., Muuri, E. & Rintala, J., 1 Oct 2020, In : APPLIED CLAY SCIENCE. 196, 13 p., 105746.

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

**Sub- and Supercritical Water Liquefaction of Kraft Lignin and Black Liquor Derived Lignin**

Lappalainen, J., Baudouin, D., Hornung, U., Schuler, J., Melin, K., Bjelić, S., Vogel, F., Konttinen, J. & Joronen, T., 28 Jun 2020, In : Energies. 13, 13, 42 p., 3309.

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

**Biogas and combustion potential of fresh reed canary grass grown on cutover peatland**

Laasasenaho, K., Renzi, F., Karjalainen, H., Kaparaju, P., Konttinen, J. & Rintala, J., 2020, In : Mires and Peat. 26, 9 p., 10.

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

**Formation and use of biogenic jarosite carrier for high-rate iron oxidising biofilms**

Ahoranta, S., Hulkkonen, H., Salminen, T., Kuula, P., Puhakka, J. A. & Lakaniemi, A. M., 2020, In : Research in Microbiology. 9 p.

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

**Quantifying the pore structure of different biochars and their impacts on the water retention properties of Sphagnum moss growing media**

Turunen, M., Hyväluoma, J., Heikkinen, J., Keskinen, R., Kaseva, J., Hannula, M. & Rasa, K., 2020, In : Biosystems Engineering. 191, p. 96-106 11 p.

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

**Biomass Resource Allocation for Bioenergy Production on Cutaway Peatlands with Geographical Information (GI) Analyses**

Laasasenaho, K., 19 Dec 2019, Tampere University. 105 p. (Tampere University Dissertations; vol. 191)

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

**Cultivation and safety aspects of Arthrospira platensis (Spirulina) grown with struvite recovered from anaerobic digestion plant as phosphorus source**

Markou, G., Arapoglou, D., Eliopoulos, C., Balafoutis, A., Taddeo, R., Panara, A. & Thomaidis, N., Dec 2019, In : Algal Research. 44

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

**Bioaugmentation enhances dark fermentative hydrogen production in cultures exposed to short-term temperature fluctuations**

Okonkwo, O., Escudié, R., Bernet, N., Mangayil, R., Lakaniemi, A-M. & Trably, E., 21 Nov 2019, In : Applied Microbiology and Biotechnology. 11 p.

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

**Resilient performance of an anoxic biotrickling filter for hydrogen sulphide removal from a biogas mimic: Steady, transient state and neural network evaluation**

Watsuntorn, W., Khanongnuch, R., Chulalaksananukul, W., Rene, E. R. & Lens, P. N. L., 18 Nov 2019, In : Journal of Cleaner Production. p. 119351

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

**Fluorination of pyrene-based organic semiconductors enhances the performance of light emitting diodes and halide perovskite solar cells**

Salunke, J., Singh, A., He, D., Duc Pham, H., Bai, Y., Wang, L., Dahlström, S., Nyman, M., Manzhos, S., Feron, K., Österbacka, R., Priimägi, A., Vivo, P. & Sonar, P., 9 Nov 2019, In : Organic Electronics.

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

#### **Co-production of 1,3 propanediol and long-chain alkyl esters from crude glycerol**

Mangayil, R., Efimova, E., Konttinen, J. & Santala, V., 11 Jul 2019, In : *New Biotechnology*. 53, p. 81-89 9 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

#### **Selective enrichment of biocatalysts for bioelectrochemical systems: A critical review**

Chatterjee, P., Dessi, P., Kokko, M., Lakaniemi, A-M. & Lens, P., Jul 2019, In : *Renewable and Sustainable Energy Reviews*. 109, p. 10-23 14 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

#### **Semi-continuous mono-digestion of OFMSW and Co-digestion of OFMSW with beech sawdust: Assessment of the maximum operational total solid content**

Pastor-Poquet, V., Papirio, S., Trably, E., Rintala, J., Escudié, R. & Esposito, G., 1 Feb 2019, In : *Journal of Environmental Management*. 231, p. 1293-1302 10 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

#### **Carbon storage change and $\delta^{13}\text{C}$ transitions of peat columns in a partially forestry-drained boreal bog**

Nykänen, H., Rissanen, A. J., Turunen, J., Tahvanainen, T. & Simola, H., 2019, In : *Plant and Soil*. 14 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

#### **CH<sub>4</sub> oxidation in a boreal lake during the development of hypolimnetic hypoxia**

Saarela, T., Rissanen, A. J., Ojala, A., Pumpanen, J., Aalto, S. L., Tiirola, M., Vesala, T. & Jäntti, H., 2019, In : *Aquatic Sciences*. 82, 2, 12 p., 19.  
Research output: Contribution to journal > Article > Scientific > peer-review

#### **Storing of exoelectrogenic anolyte for efficient microbial fuel cell recovery**

Haavisto, J. M., Lakaniemi, A-M. & Puhakka, J. A., 2019, In : *Environmental Technology*. 40, 11  
Research output: Contribution to journal > Article > Scientific > peer-review

#### **How and why does willow biochar increase a clay soil water retention capacity?**

Rasa, K., Heikkinen, J., Hannula, M., Arstila, K., Kulju, S. & Hyväluoma, J., 1 Dec 2018, In : *Biomass and Bioenergy*. 119, p. 346-353 8 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

#### **Bi-directional cell-pericellular matrix interactions direct stem cell fate**

Ferreira, S. A., Motwani, M. S., Faull, P. A., Seymour, A. J., Yu, T. T. L., Enayati, M., Taheem, D. K., Salzlechner, C., Haghghi, T., Kania, E. M., Oommen, O. P., Ahmed, T., Loaiza, S., Parzych, K., Dazzi, F., Varghese, O. P., Festy, F., Grigoriadis, A. E., Auner, H. W., Snijders, A. P., Bozec, L. & Gentleman, E., Dec 2018, In : *Nature Communications*. 9, 1, 12 p., 4049.  
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#### **FAIMS analysis of urine gaseous headspace is capable of differentiating ovarian cancer**

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#### **High Nitrogen Removal in a Constructed Wetland Receiving Treated Wastewater in a Cold Climate**

Uusheimo, S., Huotari, J., Tulonen, T., Aalto, S. L., Rissanen, A. J. & Arvola, L., 20 Nov 2018, In : *Environmental science & technology*. 52, 22, p. 13343-13350 8 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

#### **Biological treatment of selenium-laden wastewater containing nitrate and sulfate in an upflow anaerobic sludge bed reactor at pH 5.0**

Tan, L. C., Nancharaiyah, Y. V., Lu, S., van Hullebusch, E. D., Gerlach, R. & Lens, P. N. L., 1 Nov 2018, In : *Chemosphere*. 211, p. 684-693 10 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Remediation of sedimented fiber originating from pulp and paper industry: Laboratory scale anaerobic reactor studies and ideas of scaling up**

Chatterjee, P., Lahtinen, L., Kokko, M. & Rintala, J., 15 Oct 2018, In : *Water Research*. 143, p. 209-217 9 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Temperature control as key factor for optimal biohydrogen production from thermomechanical pulping wastewater**

Dessi, P., Porca, E., Lakaniemi, A-M., Collins, G. & Lens, P. N. L., 15 Sep 2018, In : *Biochemical Engineering Journal*. 137, p. 214-221 8 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**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**

Eregowda, T., Matanhike, L., Rene, E. R. & Lens, P. N. L., 1 Sep 2018, In : *Bioresource Technology*. 263, p. 591-600 10 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Sensory properties of Nordic edible mushrooms**

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

**Characterization and biological stabilization of fine fraction from landfill mining**

Mönkäre, T., 23 Feb 2018, Tampere University of Technology. 68 p. (Tampere University of Technology. Publication; vol. 1522)  
Research output: Book/Report > Doctoral thesis > Collection of Articles

**UV-Blocking Synthetic Biopolymer from Biomass-Based Bifuran Diester and Ethylene Glycol**

Kainulainen, T. P., Sirviö, J. A., Sethi, J., Hukka, T. I. & Heiskanen, J. P., 21 Feb 2018, In : *Macromolecules*. 51, 5, p. 1822-1829 8 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Resistant ammonia-oxidizing archaea endure, but adapting ammonia-oxidizing bacteria thrive in boreal lake sediments receiving nutrient-rich effluents**

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

**Stable carbon isotopic composition of peat columns, subsoil and vegetation on natural and forestry-drained boreal peatlands**

Nykänen, H., Mpamah, P. A. & Rissanen, A. J., 2018, In : *Isotopes in Environmental and Health Studies*. 54, 6  
Research output: Contribution to journal > Article > Scientific > peer-review

**Carbazole-based small molecule electron donors: Syntheses, characterization, and material properties**

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

**Photoresponsive Polymer Hydrogel Coatings that Change Topography**

Stumpel, J. E., ter Schiphorst, J. & Schenning, A. P. H. J., 21 Jul 2017, *Responsive Polymer Surfaces: Dynamics in Surface Topography*. Liu, D. & Broer, D. (eds.). Wiley-VCH, p. 159-173  
Research output: Chapter in Book/Report/Conference proceeding > Chapter > Scientific > peer-review

**Impact of film thickness of ultra-thin dip-coated compact TiO<sub>2</sub> layers on the performance of mesoscopic perovskite solar cells**

Masood, M. T., Weinberger, C., Sarfraz, J., Rosqvist, E., Sandén, S., Sandberg, O., Vivo, P., Hashmi, G., Lund, P. D., Österbacka, R. & Smått, J-H., 31 May 2017, In : *ACS Applied Materials and Interfaces*. 9, 21, p. 17906-17913  
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**Recovering Nitrogen as a Solid without Chemical Dosing: Bio-Electroconcentration for Recovery of Nutrients from Urine**  
Ledezma, P., Jermakka, J., Keller, J. & Freguia, S., 14 Mar 2017, In : Environmental Science and Technology Letters. 4, 3, p. 119-124 6 p.

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

**Anaerobic batch conversion of pine wood torrefaction condensate**

Doddapaneni, T. R. K. C., Praveenkumar, R., Tolvanen, H., Palmroth, M. R. T., Konttinen, J. & Rintala, J., Feb 2017, In : Bioresource Technology. 225, p. 299-307 9 p.

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

**High-rate thiosulfate-driven denitrification at pH lower than 5 in fluidized-bed reactor**

Di Capua, F., Lakaniemi, A-M., Puhakka, J. A., Lens, P. N. L. & Esposito, G., Feb 2017, In : Chemical Engineering Journal. 310, Part 1, p. 282-291 10 p.

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

**Bioelectrochemical removal of inorganic sulfur compounds and copper from simulated acidic mining water**

Sulonen, M., Kokko, M., Lakaniemi, A-M. & Puhakka, J., 2017.

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

**Methane production from 30-100 year old sedimented fibre from pulp and paper industry**

Kokko, M., Koskue, V. & Rintala, J., 2017.

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

**Microbial community response on wastewater discharge in boreal lake sediments**

Saarenheimo, J., Aalto, S. L., Rissanen, A. J. & Tirola, M., 2017, In : Frontiers in Microbiology. 8, 750.

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

**Reduced Inorganic Sulfur Compounds of Simulated Mining Waters Support Bioelectrochemical and Electrochemical Current Generation**

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

**Screening biological methods for laboratory scale stabilization of fine fraction from landfill mining**

Mönkäre, T. J., Palmroth, M. R. T. & Rintala, J. A., 2017, In : Waste Management. 60, p. 739-747 9 p.

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

**Start-up of anaerobic digester treating LCFA containing wastewater at low temperature**

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

**Study of LCFA mediated granular disintegration in EGSB at low temperature using Static Image Analysis**

Singh, S., Tolvanen, H., Kokko, M. & Rintala, J., 2017.

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

**Uranium Removal via Sorption Using Peat and Waste Digested Activated Sludge**

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

**Recombinant antibodies for specific detection of clostridial [Fe-Fe] hydrogenases**

Mangayil, R., Karp, M., Lamminmäki, U. & Santala, V., 27 Oct 2016, In : Scientific Reports. 6, 9 p., 36034.

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

**Mitigation of propylene glycol emissions to groundwater and soil**

Palmroth, M. R. T., Pispä, L., Kettunen, R. H., Hänninen, T. & Rintala, J. A., 5 Sep 2016, p. 191.

#### **Structural photoactivation of a full-length bacterial phytochrome**

Björling, A., Berntsson, O., Lehtivuori, H., Takala, H., Hughes, A. J., Panman, M., Hoernke, M., Niebling, S., Henry, L., Henning, R., Kosheleva, I., Chukharev, V., Tkachenko, N. V., Menzel, A., Newby, G., Khakhulin, D., Wulff, M., A. Ihalainen, J. & Westenhoff, S., 12 Aug 2016, In : *Science Advances*. 2, 8, 9 p., e1600920.

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

#### **Microbial electrochemical technologies with the perspective of harnessing bioenergy: Maneuvering towards upscaling**

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

#### **Characterization of fine fraction mined from two Finnish landfills**

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#### **High rate autotrophic denitrification in fluidized-bed biofilm reactors**

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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

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#### **Use of diluted urine for cultivation of *Chlorella vulgaris***

Jaatinen, S., Lakaniemi, A-M. & Rintala, J., 2016, In : *Environmental Technology*. 37, 9, p. 1159-1170 12 p.

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#### **Use of laboratory anaerobic digesters to simulate the increase of treatment rate in full-scale high nitrogen content sewage sludge and co-digestion biogas plants**

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

#### **Mesophilic anaerobic digestion of pulp and paper industry biosludge-long-term reactor performance and effects of thermal pretreatment**

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#### **Synthesis, crystal structure, physico-chemical characterization and dielectric properties of a new hybrid material, 1-Ethylpiperazine-1,4-dium tetrachlorocadmate**

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

**Metabolic engineering of *Acinetobacter baylyi* ADP1 for removal of *Clostridium butyricum* growth inhibitors produced from lignocellulosic hydrolysates**

Kannisto, M. S., Mangayil, R. K., Shrivastava-Bhattacharya, A., Pletschke, B. I., Karp, M. T. & Santala, V. P., 1 Dec 2015, In : *Biotechnology for Biofuels*. 8, 1, 198.

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

**Production of Oleaginous Microbial Biomass by Reusing Wastewaters**

Marjakangas, J., 28 Nov 2015, Tampere University of Technology. 58 p. (Tampere University of Technology. Publication; vol. 1348)

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

**Organic Chromophores in Self-Assembled Monolayers and Supramolecular Arrays**

Sariola-Leikas, E., 20 Nov 2015, Tampere University of Technology. 58 p. (Tampere University of Technology. Publication; vol. 1334)

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

**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.

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**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

**Selecting an indigenous microalgal strain for lipid production in anaerobically treated piggery wastewater**

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

**Fe<sub>2</sub>O<sub>3</sub>-TiO<sub>2</sub> nanosystems by a hybrid PE-CVD/ALD approach: controllable synthesis, growth mechanism, and photocatalytic properties**

Barreca, D., Carraro, G., Warwick, M. E. A., Kaunisto, K., Gasparotto, A., Gombac, V., Sada, C., Turner, S., Van Tendeloo, G., Maccato, C. & Fornasiero, P., 28 Aug 2015, In : *CrystEngComm*. 17, 32, p. 6219-6226 8 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

**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

**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

### **Selenium biomineralization for biotechnological applications**

Nancharaiyah, Y. V. & Lens, P. N. L., Jun 2015, In : Trends in Biotechnology. 33, 6, p. 323-330 8 p.  
Research output: Contribution to journal › Literature review › 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

### **Characteristics and agronomic usability of digestates from laboratory digesters treating food waste and autoclaved food waste**

Tampio, E., Ervasti, S. & Rintala, J., 1 May 2015, In : Journal of Cleaner Production. 94, p. 86-92 7 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

### **Gene expression profiles of *Vibrio parahaemolyticus* in viable but non-culturable state**

Meng, L., Alter, T., Aho, T. & Huehn, S., May 2015, In : FEMS Microbiology Ecology. 91, 5, 12 p., 035.  
Research output: Contribution to journal › Article › Scientific › peer-review

### **Developing Synthetic Biology Tools and Model Chassis: Production of Bioenergy and High-Value Molecules**

Santala, S., 24 Apr 2015, Tampere University of Technology. 99 p. (Tampere University of Technology. Publication; vol. 1288)  
Research output: Book/Report › Doctoral thesis › Collection of Articles

### **Light induced cytosolic drug delivery from liposomes with gold nanoparticles**

Lajunen, T., Viitala, L., Kontturi, L-S., Laaksonen, T., Liang, H., Vuorimaa-Laukkanen, E., Viitala, T., Le Guevel, X., Yliperttula, M., Murtomaki, L. & Urtti, A., 10 Apr 2015, In : Journal of Controlled Release. 203, p. 85-98 14 p.  
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### **Biohydrogen Production: A Protein to Community Level Perspective Study**

Mangayil, R., 7 Apr 2015, Tampere University of Technology. 89 p. (Tampere University of Technology. Publication; vol. 1282)  
Research output: Book/Report › Doctoral thesis › Collection of Articles

### **Ecological Sanitation - A Logical Choice? The Development of the Sanitation Institution in a World Society**

O'Neill, M., 7 Mar 2015, Tampere University of Technology. 236 p. (Tampere University of Technology. Publication; vol. 1284)  
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### **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

### **Improved bioconversion of crude glycerol to hydrogen by statistical optimization of media components**

Mangayil, R., Aho, T., Karp, M. & Santala, V., 1 Mar 2015, In : Renewable Energy. 75, p. 583-589 7 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

### **Biological Nitrogen Removal from Acidic, Heavy-metal Containing Waters**

Zou, G., 2015, Tampere: Tampere University of Technology. 92 p. (Tampere University of Technology. Publication; vol. 1314)  
Research output: Book/Report › Doctoral thesis › Collection of Articles

### **Factors affecting the elimination capacity of a passive methane biofilter**

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**Fungal treatment of landfill mining fine fraction to increase its stability and end-use potential**

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**Energy Demands of Nitrogen Supply in Mass Cultivation of Two Commercially Important Microalgal Species, *Chlorella vulgaris* and *Dunaliella tertiolecta***

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Research output: [Contribution to journal](#) › [Article](#) › [Scientific](#) › [peer-review](#)

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