

A novel electrical charging condensing heat exchanger for efficient particle emission reduction in small wood boilers

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

Building university-industry co-innovation networks in transnational innovation ecosystems  
Towards a transdisciplinary approach of integrating social sciences and artificial intelligence

The potential of biomethane in replacing fossil fuels in heavy transport-a case study on Finland

Towards a circular economy by leveraging hazardous resources  
A case study of Fortum HorsePower

Photovoltaic properties of low-bandgap (0.7–0.9eV) lattice-matched GaInNAsSb solar junctions grown by molecular beam epitaxy on GaAs

Impact of Different Concrete Types on Radio Propagation  
Fundamentals and Practical RF Measurements

Pre-Grant Signaling for Energy-Efficient 5G and Beyond Mobile Devices  
Method and Analysis

GIS-data related route optimization, hierarchical clustering, location optimization, and kernel density methods are useful for promoting distributed bioenergy plant planning in rural areas

Energy Detection-Based Spectrum Sensing over Fisher-Snedecor F Fading Channels

Improved Session Continuity in 5G NR with Joint Use of Multi-Connectivity and Guard Bandwidth

Impedance-based interactions in grid-tied three-phase inverters in renewable energy applications

Direct fixed-step maximum power point tracking algorithms with adaptive perturbation frequency

The economics of renewable  $\text{CaC}_2$  and  $\text{C}_2\text{H}_2$  production from biomass and  $\text{CaO}$

Why social sustainability counts  
The impact of corporate social sustainability culture on financial success

Charge carrier dynamics in tantalum oxide overlayered and tantalum doped hematite photoanodes

Bio-hydrogen Production from Sewage Sludge  
Screening for Pretreatments and Semi-continuous Reactor Operation

Combined experimental and theoretical study of acetylene semi-hydrogenation over  $\text{Pd}/\text{Al}_2\text{O}_3$

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

Effect of apartment building energy renovation on hourly power demand

Identification of three-phase grid impedance in the presence of parallel converters

Power electronics in renewable energy systems

Sustainability of bioenergy in Finland and globally – fact check

Technology valuation method for supporting knowledge management in technology decisions to gain sustainability

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

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

Energiätehokkaan arkkitehtisuunnittelun ohjekortisto  
Translated title of the contribution: : Instruction card file for energy efficient architectural design

Peruskoulut ja energiatehokkuus  
Tilallisista ja toiminnallisista suunnitteluperiaatteista  
Translated title of the contribution: : Comprehensive schools and energy efficiency: On spatial and functional design principles

Creating value in the circular economy  
A structured multiple-case analysis of business models

Quantification of bio-anode capacitance in bioelectrochemical systems using Electrochemical Impedance Spectroscopy

Alternative Power-Based Pricing Schemes for Distribution Network Tariff of Small Customers

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

A distributed automation architecture for distribution networks, from design to implementation

Dilute nitride triple junction solar cells for space applications  
Progress towards highest AM0 efficiency

Lessons learnt from real-time monitoring of the low voltage distribution network

Production of alkanes from CO<sub>2</sub> by engineered bacteria

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

Design aspects of all atomic layer deposited TiO<sub>2</sub>-Fe<sub>2</sub>O<sub>3</sub> scaffold-absorber photoanodes for water splitting

Metabolic pairing of aerobic and anaerobic production in a one-pot batch cultivation

Online dynamic conductance estimation based maximum power point tracking of photovoltaic generators

Effects of wastewater constituents and operational conditions on the composition and dynamics of anodic microbial communities in bioelectrochemical systems

Role of Oxide Defects in ALD grown  $\text{TiO}_2$  Coatings on Performance as Photoanode Protection Layer

Inoculum pretreatment differentially affects the active microbial community performing mesophilic and thermophilic dark fermentation of xylose

Dynamic modeling and analysis of PCM-controlled DCM-operating buck converters-A reexamination

Improved Light Trapping in Quantum Dot Solar Cells Using Double-sided Nanostructuring

Light-trapping enhanced thin-film III-V quantum dot solar cells fabricated by epitaxial lift-off

Thermophilic versus mesophilic dark fermentation in xylose-fed fluidised bed reactors  
Biohydrogen production and active microbial community

Effect of hydraulic retention time on continuous electricity production from xylose in up-flow microbial fuel cell

A demand-based nutrient utilization approach to urban biogas plant investment based on regional crop fertilization

Atomikerroskasvatusmenetelmällä kasvatetun titaanidioksidikalvon ominaisuudet valosähkökemiallisessa veden hajottamisessa

Translated title of the contribution: : Properties of Atomic Layer Deposited Titanium Dioxide Film in Photoelectrochemical Water Splitting

Electropolymerized polyazulene as active material in flexible supercapacitors

Hafnium oxide thin films as a barrier against copper diffusion in solar absorbers

On the Efficient Calculation of the Periodic Steady-State Response of Grid-Connected Wind Parks - Part I

Effects of PV array layout, electrical configuration and geographic orientation on mismatch losses caused by moving clouds

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

Design of a 25 MWe Solar Thermal Power Plant in Iran with Using Parabolic Trough Collectors and a Two-Tank Molten Salt Storage System

Thermal Modification of ALD Grown Titanium Oxide Ultra Thin Film for Photoanode Applications

Apparent velocity of shadow edges caused by moving clouds

Analysis of shading periods caused by moving clouds

Exposure to biological and chemical agents at biomass power plants

Comparison of photovoltaic and wind generators as dynamic input sources to power processing interfaces

Liquid fertilizer products from anaerobic digestion of food waste  
Mass, nutrient and energy balance of four digestate liquid treatment systems

Power quality in distribution networks with electric vehicle charging - A research methodology based on field tests and real data

Influence of As/group-III flux ratio on defects formation and photovoltaic performance of GaInNAs solar cells

Antireflection composite coatings for organic solar cells

Planning land use for biogas energy crop production  
The potential of cutaway peat production lands

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

Influence of temperature-induced copper diffusion on degradation of selective chromium oxy-nitride solar absorber coatings

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

Single-source multibattery solar charger  
Case study and implementation issues

Synthesis and study of electrochemical and optical properties of substituted perylenemonoimides in solutions and on solid surfaces

Improved adaptive input voltage control of a solar array interfacing current mode controlled boost power stage

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

Engineered nanomaterials reduce but do not resolve life cycle environmental impacts of power capacitors

Fermentative metabolism of an anaerobic, thermophilic consortium on plant polymers and commercial paper samples

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

Driving pattern analysis of Nordic region based on National Travel Surveys for electric vehicle integration

Interfacing renewable energy sources for maximum power transfer-Part II  
Dynamics

Composition dependent growth dynamics in molecular beam epitaxy of GaInNAs solar cells

Inhibitory effects of substrate and soluble end products on biohydrogen production of the alkalithermophile *Caloramator celer*

Kinetic, metabolic and transcription analyses

Design driven world of cellulose-from bulk to luxury?

Nanocellulose aerogel membranes for optimal electrolyte filling in dye solar cells

Scanner abdominal

Étude comparative de l'exposition patient en routine clinique sur des appareils avec et sans reconstruction itérative

Translated title of the contribution: : Abdominal CT scan: A comparative study of patient exposure in clinical routine on devices with and without iterative reconstruction

Software design for simulating microbial bioprocesses in bioreactor

Non-sterile process for biohydrogen and 1,3-propanediol production from raw glycerol

Prospecting hydrogen production of *Escherichia coli* by metabolic network modeling

Renewable vs. traditional energy management solutions - A Finnish hospital facility case

Attitude-behaviour gap in energy issues

Case study of three different Finnish residential areas

Roll-to-roll atomic layer deposition for flexible substrates

Wear resistance of nanoparticle coatings on paperboard

Methane production from maize in Finland - Screening for different maize varieties and plant parts

Consumer panel on the readiness of finns to behave in a more pro-environmental manner

Demonstration of increased lipid accumulation potential of *Stigeoclonium* sp., Kütz. BUM11007 under nitrogen starved regime

A new source of lipids for biodiesel production

Influence of nutrient deprivations on lipid accumulation in a dominant indigenous microalga *Chlorella* sp., BUM11008

Evaluation for biodiesel production

High temperature oxidation behaviour of MnCO<sub>2</sub>O<sub>4</sub> coating on crofer 22 APU manufactured by a novel solution precursor plasma spray process (SPPS)

Hydrogen and methane yields of untreated, water-extracted and acid (HCl) treated maize in one- and two-stage batch assays

Trace compounds affecting biogas energy utilisation - A review

Mitigation of greenhouse gas emissions by adopting anaerobic digestion technology on dairy, sow and pig farms in Finland

Environmental and economic evaluation of solar thermal panels using exergy and dimensional analysis

Manganese-cobalt spinel coatings for SOFC metallic interconnects manufactured by conventional plasma spraying (PS) and suspension plasma spraying (SPS)

Determination of organic silicon compounds in biogas from wastewater treatments plants, landfills, and co-digestion plants

One-stage H<sub>2</sub> and CH<sub>4</sub> and two-stage H<sub>2</sub> + CH<sub>4</sub> production from grass silage and from solid and liquid fractions of NaOH pre-treated grass silage

Screening boreal energy crops and crop residues for methane biofuel production

Batch dark fermentative hydrogen production from grass silage  
The effect of inoculum, pH, temperature and VS ratio

Laboratory investigations on co-digestion of energy crops and crop residues with cow manure for methane production  
Effect of crop to manure ratio

Trace compounds of biogas from different biogas production plants

Anaerobic co-digestion of potato tuber and its industrial by-products with pig manure