

Frequency Comb Generation in a Continuous-Wave Pumped Second-Order Nonlinear Waveguide Resonator

Synthesis and Photophysical Properties of Two Diazaporphyrin-Porphyrin Hetero Dimers in Polar and Nonpolar Solutions

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

Magnetic origin of the chemical balance in alloyed Fe-Cr stainless steels  
First-principles and Ising model study

Linking volatile and non-volatile compounds to sensory profiles and consumer liking of wild edible Nordic mushrooms

Photoresponsive liquid-crystalline polymer films bilayered with an inverse opal structure

Novel derivatives of bacteriochlorophyll a  
Complex formation with albumin and the mechanism of tumor cell photodamage

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

Physical Characteristics of Particle Emissions from a Medium Speed Ship Engine Fueled with Natural Gas and Low-Sulfur Liquid Fuels

Methods for simultaneous robot-world-hand-eye calibration  
A comparative study

Ambient-Pressure XPS Study of a Ni-Fe Electrocatalyst for the Oxygen Evolution Reaction

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

Guanidinium Pairing Facilitates Membrane Translocation

Impact of selective catalytic reduction on exhaust particle formation over excess ammonia events

Possible strategy to use differential mobility spectrometry in real time applications

Additive manufacturing of monolithic supercapacitors with biopolymer separator

Hydrolysis and drug release from poly(ethylene glycol)-modified lactone polymers with open porosity

Synthesis of 6,12-disubstituted methanodibenzo[b,f][1,5]dioxocins  
Pyrrolidine catalyzed self-condensation of 2'-Hydroxyacetophenones

Detection of DNA hybridisation in a diluted serum matrix by surface plasmon resonance and film bulk acoustic resonators

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

The role of symmetry in the aesthetics of residential building façades using cognitive science methods

Experimental study on axially loaded square hollow section T-joints under fire conditions

Long-Range Observation of Exciplex Formation and Decay Mediated by One-Dimensional Bridges

Photophysical properties of porphyrin dimer-single-walled carbon nanotube linked systems

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

Polarization resolved photoluminescence in  $\text{GaAs}_{1-x}\text{Bi}_x/\text{GaAs}$  quantum wells

Water-Responsive and Mechanically Adaptive Natural Rubber Composites by in Situ Modification of Mineral Filler Structures

Temperature scanning stress relaxation behavior of water responsive and mechanically adaptive elastomer nanocomposites

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

On the alignment of ZnO nanowires by Langmuir – Blodgett technique for sensing application

Optical vortex generation in nematic liquid crystal light valves

Affine-response model of molecular solvation of ions  
Accurate predictions of asymmetric charging free energies

$\text{Fe}_2\text{O}_3\text{-TiO}_2$  nanosystems by a hybrid PE-CVD/ALD approach  
controllable synthesis, growth mechanism, and photocatalytic properties

Controlled Growth of Supported ZnO Inverted Nanopyramids with Downward Pointing Tips

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

Nanostructured Ionomeric Elastomers

Second-harmonic generation imaging of semiconductor nanowires with focused vector beams

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

Comparison and impact of different fiber debond techniques on fiber reinforced flexible composites

Encapsulation of secondary and tertiary ammonium salts by resorcinarenes and pyrogallarenes  
The effect of size and charge concentration

Construction of an Interconnected Nanostructured Carbon Black Network  
Development of Highly Stretchable and Robust Elastomeric Conductors

Tuning of nonlinear absorption in highly luminescent CdSe based quantum dots with core-shell and core/multi-shell architectures

Highly Oxygenated Organic Molecules (HOM) from Gas-Phase Autoxidation Involving Peroxy Radicals  
A Key Contributor to Atmospheric Aerosol

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

Waves in hyperbolic and double negative metamaterials including rogues and solitons

Quantifying non-ergodic dynamics of force-free granular gases

Tribology of HVOF- and HVOF-sprayed WC-10Co4Cr hardmetal coatings  
A comparative assessment

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

Block co-polymers for nanolithography  
Rapid microwave annealing for pattern formation on substrates

Soft-graphoepitaxy using nanoimprinted polyhedral oligomeric silsesquioxane substrates for the directed self-Assembly of PS-b-PDMS

Tuning PDMS brush chemistry by UV-O<sub>3</sub> exposure for PS-b-PDMS microphase separation and directed self-assembly

Molecularly functionalized silicon substrates for orientation control of the microphase separation of PS-b-PMMA and PS-b-PDMS block copolymer systems

Semiclassical hybrid approach to condensed phase molecular dynamics  
Application to the I<sub>2</sub>Kr<sub>17</sub> cluster

Porous polybutylene succinate films enabling adhesion of human embryonic stem cell-derived retinal pigment epithelial cells (hESC-RPE)

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

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

Effect of tungsten and selenium on C<sub>1</sub> gas bioconversion by an enriched anaerobic sludge and microbial community analysis

Ergodicity breaking and particle spreading in noisy heterogeneous diffusion processes

Molecular-Scale Ligand Effects in Small Gold-Thiolate Nanoclusters

Starch-poly(vinyl alcohol) barrier coatings for flexible packaging paper and their effects of phase interactions

Oxygen and water vapor transmission rates of starch-poly(vinyl alcohol) barrier coatings for flexible packaging paper

Syndecan-4 tunes cell mechanics by activating the kindlin-integrin-RhoA pathway

Self-assembly of polystyrene-block-poly(4-vinylpyridine) block copolymer on molecularly functionalized silicon substrates  
Fabrication of inorganic nanostructured etchmask for lithographic use

Second-Harmonic Generation from Metal Nanoparticles  
Resonance Enhancement versus Particle Geometry

Less Is More  
Enhancement of Second-Harmonic Generation from Metasurfaces by Reduced Nanoparticle Density

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

Efficient production of NV colour centres in nanodiamonds using high-energy electron irradiation

A novel thermotropic elastomer based on highly-filled LDH-SSB composites

Preparation of zinc oxide free, transparent rubber nanocomposites using a layered double hydroxide filler

Temperature scanning stress relaxation of an autonomous self-healing elastomer containing non-covalent reversible network junctions

Inverted critical adsorption of polyelectrolytes in confinement

Structural information content of networks  
Graph entropy based on local vertex functionals

Quantifying structural complexity of graphs  
Information measures in mathematical chemistry

On entropy-based molecular descriptors  
Statistical analysis of real and synthetic chemical structures

The structural information content of chemical networks

Global analysis of human nonreceptor tyrosine kinase specificity using high-density peptide microarrays

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

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

Effect of surface morphology of poly( $\epsilon$ -caprolactone) scaffolds on adipose stem cell adhesion and proliferation

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

Chemolithotrophic denitrification in biofilm reactors

Adsorption of furfural from torrefaction condensate using torrefied biomass

Lubricated icephobic coatings prepared by flame spraying with hybrid feedstock injection

Efficient photon upconversion at remarkably low annihilator concentrations in a liquid polymer matrix: when less is more

Detection and characterization at nM concentration of oligomers formed by hIAPP, A $\beta$ (1-40) and their equimolar mixture using SERS and MD simulations

PEGylated liposomes as carriers of hydrophobic porphyrins

Fast Switching of Bright Whiteness in Channeled Hydrogel Networks

A microscopic view of the mechanisms of active transport across the cellular membrane

Multiscale Simulations of Biological Membranes  
The Challenge To Understand Biological Phenomena in a Living Substance

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

Exploring the role of stearic acid in modified zinc aluminum layered double hydroxides and their acrylonitrile butadiene rubber nanocomposites

Conductivity control via minimally invasive anti-Frenkel defects in a functional oxide

Crystallization and sintering of borosilicate bioactive glasses for application in tissue engineering

Chemically tailored dielectric-to-metal transition for the design of metamaterials from nanoimprinted colloidal nanocrystals

Chlorine induced high-temperature corrosion mechanisms in HVOF and HVOF sprayed Cr<sub>3</sub>C<sub>2</sub>-based hardmetal coatings

Evaluating transparent liquid screen overlay as a haptic conductor  
Method of enhancing touchscreen based user interaction by a transparent deformable liquid screen overlay

Sulfonated polyetheretherketone/polypropylene polymer blends for the production of photoactive materials

Coordination networks incorporating halogen-bond donor sites and azobenzene groups

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

Synthesis, characterization and solid-state photoluminescence studies of six alkoxy phenylene ethynylene dinuclear palladium(II) rods

Measuring synthesis yield in graphene oxide synthesis by modified hummers method

The Suzuki, the Heck, and the Stille reaction - Three versatile methods, for the introduction of new C-C bonds on solid support

Recent advances in the preparation of heterocycles on solid support  
A review of the literature

Utilization of Grignard reagents in solid-phase synthesis  
A review of the literature

Investigation of the adducts formed by reaction of butenedioic acids with adenosine

Synthesis of chlorinated 5-hydroxy 4-methyl-2(5H)-furanones and mucochloric acid

La thérapie photodynamique  
État de l'art et perspectives  
Translated title of the contribution: : The photodynamic therapy: State of the art and perspectives

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

Buckling Behavior of Cold-Formed Studs with Thermal Perforations

Experimental moment resistance of rectangular hollow section T joints

Human adipose stem cells in chondrogenic differentiation medium without growth factors differentiate towards annulus fibrosus phenotype in vitro

Photo-antimicrobial efficacy of zinc complexes of porphyrin and phthalocyanine activated by inexpensive consumer LED lamp

Cell toxicity and oxidative potential of engine exhaust particles  
Impact of using particulate filter or biodiesel fuel blend

Proliferation and differentiation of adipose stem cells towards smooth muscle cells on poly(trimethylene carbonate) membranes

Pyrolytic behavior of lignocellulosic-based polysaccharides

The Hosoya entropy of graphs revisited

Non-universal tracer diffusion in crowded media of non-inert obstacles

Towards universal enrichment nanocoating for IR-ATR waveguides

Enrichment polymer layers for detection of volatile vapors by ATR FT-IR

An electro-optically tunable Bragg reflector based on liquid crystals

Energy-dependent diffusion in a soft periodic Lorentz gas

Arrhenius analysis of anisotropic surface self-diffusion on the prismatic facet of ice

Silver sulfide nanoclusters and the superatom model

Superatom Model for Ag-S Nanocluster with Delocalized Electrons

Geometric Structure and Chemical Ordering of Large AuCu Clusters  
A Computational Study

Thermal desorption of molecular oxygen from SnO<sub>2</sub> (110) surface  
Insights from first-principles calculations

Effects of orientation at the phthalocyanine-CdSe interface on the electron transfer characteristics

Shape-dependent plasmonic response and directed self-assembly in a new semiconductor building block, indium-doped cadmium oxide (ICO)

Effect of head group size on the photoswitching applications of azobenzene Disperse Red 1 analogues

O<sub>2</sub>-requiring molecular reporters of gene expression for anaerobic microorganisms

Membrane cholesterol access into a G-protein-coupled receptor

The Devil Is in the Details  
What Do We Really Track in Single-Particle Tracking Experiments of Diffusion in Biological Membranes?

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

The effect of start-up on energy recovery and compositional changes in brewery wastewater in bioelectrochemical systems

Kinetics and modelling of thiosulphate biotransformations by haloalkaliphilic Thioalkalivibrio versutus

Lithography-free oxide patterns as templates for self-catalyzed growth of highly uniform GaAs nanowires on Si(111)

Analysis of free, mono- and diacetylated polyamines from human urine by LC-MS/MS

Effect of Hole Transporting Material on Charge Transfer Processes in Zinc Phthalocyanine Sensitized ZnO Nanorods

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

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

The Discovery of Compounds That Stimulate the Activity of Kallikrein-Related Peptidase3 (KLK3)

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

Polymorph crystal packing effects on charge transfer emission in the solid state

ClothFace

A Batteryless RFID-Based Textile Platform for Handwriting Recognition

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

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

Urea and guanidinium induced denaturation of a Trp-cage miniprotein

Remarkable Dependence of the Final Charge Separation Efficiency on the Donor-Acceptor Interaction in Photoinduced Electron Transfer

Hexaphyrin as a Potential Theranostic Dye for Photothermal Therapy and <sup>19</sup>F Magnetic Resonance Imaging

Epitaxial phases of high Bi content GaSbBi alloys

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

Release of halide ions from the buried active site of the haloalkane dehalogenase LinB revealed by stopped-flow fluorescence analysis and free energy calculations

Hydration of hydroxyl and amino groups examined by molecular dynamics and neutron scattering

A concise synthesis of carbasugars isolated from *Streptomyces lincolnensis*

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

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

Controllable Electronic Structures and Photoinduced Processes of Bay-Linked Perylenediimide Dimers and a Ferrocene-Linked Triad

Appropriate pricing policy needed worldwide for improving water services infrastructure



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

Protein conformation as a regulator of cell-matrix adhesion

Effects of pyrolysis temperature on the hydrologically relevant porosity of willow biochar

Inequivalence of single  $\text{CH}_a$  and  $\text{CH}_b$  methylene bonds in the interior of a diunsaturated lipid bilayer from a molecular dynamics simulation

Effects of two double bonds on the hydrocarbon interior of a phospholipid bilayer

MetrlntSimil-an accurate and robust metric for comparison of similarity in intelligence of any number of cooperative multiagent systems

Differential basal-to-apical accessibility of lamin A/C epitopes in the nuclear lamina regulated by changes in cytoskeletal tension

Strain rate change tests with the Split Hopkinson Bar method

Systematic analysis of coating-substrate interactions in the presence of flow localization

Molecular Docking Studies of Royleanone Diterpenoids from *Plectranthus* spp. as P-Glycoprotein Inhibitors

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

Development of Magnetic Losses During Accelerated Corrosion Tests for Nd-Fe-B Magnets Used in Permanent Magnet Generators

Feed-hopper level estimation and control in cone crushers

Mass balance control of crushing circuits

Reaction between Peroxy and Alkoxy Radicals Can Form Stable Adducts

Magnetic routing of light-induced waveguides

Behavior of the eigen form of hydronium at the air/water interface

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

Understanding selenium biogeochemistry in engineered ecosystems  
Transformation and analytical methods

Influence of heat treatment on the abrasive wear resistance of a  $\text{Cr}_3\text{C}_2\text{NiCr}$  coating deposited by an ethene-fuelled HVOF spray process

Improving the high temperature abrasion resistance of thermally sprayed  $\text{Cr}_3\text{C}_2$ -NiCr coatings by WC addition

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

Rotational Diffusion of Membrane Proteins in Crowded Membranes

Electro-concentration for chemical-free nitrogen capture as solid ammonium bicarbonate

Density functional study of structure and dynamics in liquid antimony and  $\text{Sb}_n$  clusters

Compounding and characterization of recycled multilayer plastic films

Reversible photodoping of  $\text{TiO}_2$  nanoparticles

ILC1 drive intestinal epithelial and matrix remodelling

Molekuly a ionty v pohybu  
Počítačové simulace biochemických a biofyzikálních procesů  
Translated title of the contribution: : Molecules and ions in motion: Computer simulations of biochemical and biophysical processes

Double-side pumped membrane external-cavity surface-emitting laser (MECSEL) with increased efficiency emitting  $> 3 \text{ W}$  in the 780 nm region

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

Formation of corrosion products on zinc in wet supercritical and subcritical  $\text{CO}_2$   
In-situ spectroscopic study

How conformational flexibility stabilizes the hyperthermophilic elongation factor G-domain

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

Effect of nitro groups and alkyl chain length on the negative ion tandem mass spectra of alkyl 3-hydroxy-5-(4'-nitrophenoxy) and alkyl 3-hydroxy-5-(2', 4'-dinitrophenoxy) benzoates

Graphene-intercalated  $\text{Fe}_2\text{O}_3/\text{TiO}_2$  heterojunctions for efficient photoelectrolysis of water

Reinforced chloroprene rubber by in situ generated silica particles  
Evidence of bound rubber on the silica surface

Effect of silane integrated sol-gel derived in situ silica on the properties of nitrile rubber

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

Oxidation of cholesterol does not alter significantly its uptake into high-density lipoprotein particles

Van der Waals interactions are critical in Car-Parrinello molecular dynamics simulations of porphyrin-fullerene dyads

Strategies To Diminish the Emissions of Particles and Secondary Aerosol Formation from Diesel Engines

Recovery characteristics of different tube materials in relation to combustion products

The Influence of Phosphorus Exposure on a Natural-Gas-Oxidation Catalyst

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

Experimental and theoretical study of the spin-spin coupling tensors in methylsilane

On describing the optoelectronic characteristics of poly(benzodithiophene-Co -quinoxaline)-fullerene complexes: The influence of optimally tuned density functionals

Stability and Function at High Temperature. What Makes a Thermophilic GTPase Different from Its Mesophilic Homologue

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

Concentration-dependent photophysical switching in mixed self-assembled monolayers of pentacene and perylene diimide on gold nanoclusters

Optical non-contact pH measurement in cell culture with sterilizable, modular parts

Bioimpedance Sensor Array for Long-Term Monitoring of Wound Healing from Beneath the Primary Dressings and Controlled Formation of  $H_2O_2$  Using Low-Intensity Direct Current

Sorption and retention of ethylene glycol monoethyl ether (EGME) on silicas

Alpha radiation-induced luminescence by am-241 in aqueous nitric acid solution

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

Manipulation of polycarbonate urethane bulk properties via incorporated zwitterionic polynorbornene for tissue engineering application

Fabrication of ssDNA/oligo(ethylene glycol) monolayers by promoted exchange reaction with thiol and disulfide substituents

Fabrication of ssDNA/Oligo(ethylene glycol) monolayers and patterns by exchange reaction promoted by ultraviolet light irradiation

Spectroscopic study of a DNA brush synthesized in situ by surface initiated enzymatic polymerization

Irradiation promoted exchange reaction with disulfide substituents

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

Composite Hydrogels Using Bioinspired Approach with in Situ Fast Gelation and Self-Healing Ability as Future Injectable Biomaterial

Ultrafast Photochemistry of the  $[\text{Cr}(\text{NCS})_6]^{3-}$  Complex in Dimethyl Sulfoxide and Dimethylformamide upon Excitation into Ligand-Field Electronic State

Characterizing the micro-impact fatigue behavior of APS and HVOF-sprayed ceramic coatings

Mutational spectra of Salmonella typhimurium revertants induced by chlorohydroxyfuranones, byproducts of chlorine disinfection of drinking water

Accurate description of calcium solvation in concentrated aqueous solutions

pH-dependent deformations of the energy landscape of avidin-like proteins investigated by single molecule force spectroscopy

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

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

Light-fuelled transport of large dendrimers and proteins

Surface-relief gratings and stable birefringence inscribed using light of broad spectral range in supramolecular polymer-bisazobenzene complexes

Structural basis of actin monomer re-charging by cyclase-Associated protein

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

Architectures and codecs for real-time light field streaming

Elimination of arsenic-containing emissions from gasification of chromated copper arsenate wood

The effects of calcium and potassium on  $\text{CO}_2$  gasification of birch wood in a fluidized bed

Cholesterol oxidation products and their biological importance

Deciphering the infrared spectrum of the protonated water pentamer and the hybrid Eigen-Zundel cation

Both zundel and eigen isomers contribute to the IR spectrum of the gas-phase  $\text{H}_9\text{O}_4^+$  cluster

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

Steric and electronic effects in the host-guest hydrogen bonding in clathrate hydrates

Complex Behavior of Phosphatidylcholine-Phosphatidic Acid Bilayers and Monolayers  
Effect of Acyl Chain Unsaturation

A Pentacene-based Nanotube Displaying Enriched Electrochemical and Photochemical Activities

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

Tampere University of Technology, laboratory of materials science, paper converting and packaging technology Tampere, Finland

Energy degradation in photoexcited complexes of indocarbocyanine with albumin

Microphase mechanism of "superquenching" of luminescent probes in aqueous solutions of DNA and some other polyelectrolytes

Spectral and kinetic characteristics of indotricarbocyanine complexation with albumin

Effect of Phosphatidic Acid on Biomembrane  
Experimental and Molecular Dynamics Simulations Study

Synthesis, Structural Characterization, Hirshfeld Surface and Antioxidant Activity Analysis of a Novel Organic Cation Antimonate Complex

Design principles for non-reciprocal photomechanical actuation

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

Nanoscale barrier coating on BOPP packaging film by ALD

The effects of corona and flame treatment  
Part 2. PE-HD and PP coated papers

Novel equipment to simulate hot air heat sealability of packaging materials

Novel bio-based materials for active and intelligent packaging

Nanocellulose and Polylactic Acid Based Multilayer Coatings for Barrier Applications

Market implementation of active and intelligent packaging-opportunities from a socio-economic perspective

Statistical modeling of water vapor transmission rates for extrusion-coated papers

Improving the effect of a nanoscale barrier coating on BOPP film properties by surface pretreatments

Correlation of Surface Morphology and Interfacial Adhesive Behavior between Cellulose Surfaces  
Quantitative Measurements in Peak-Force Mode with the Colloidal Probe Technique

Bioaerosols and Hospital Infections

Zinc coordination spheres in protein structures

High-resolution analysis of the  $\nu_3$  band of radiocarbon methane  $^{14}\text{CH}_4$

Lipid-assisted protein transport  
A diffusion-reaction model supported by kinetic experiments and molecular dynamics simulations

Pectin and Mucin Enhance the Bioadhesion of Drug Loaded Nanofibrillated Cellulose Films

Formation and stability of carbon nanotube network in natural rubber  
Effect of non-rubber components

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

The role of linked phospholipids in the rubber-filler interaction in carbon nanotube (CNT) filled natural rubber (NR) composites

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

Location of dispersing agent in rubber nanocomposites during mixing process

Kinetics of filler wetting and dispersion in carbon nanotube/rubber composites

Alginate microgels created by selective coalescence between core drops paired with an ultrathin shell

Time-resolved fluorescence methods (IUPAC technical report)

Spodumene tailings for porcelain and structural materials  
Effect of temperature (1050–1200°C) on the sintering and properties

Electrospun Black Titania Nanofibers  
Influence of Hydrogen Plasma-Induced Disorder on the Electronic Structure and Photoelectrochemical Performance

Start-up and Operation of Laboratory-Scale Thermophilic Upflow Anaerobic Sludge Blanket Reactors Treating Vegetable Processing Wastewaters

Calculation of the molecular ordering parameters of ( $\pm$ )-3-butyn-2-ol dissolved in an organic solution of poly( $\gamma$ -benzyl-L-glutamate)

Layered Double Hydroxides (LDH)  
A multifunctional versatile system for nanocomposites

An automated algorithm for reliable equation of state fitting of magnetic systems

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

Numerical simulation of temperature distributions in layered structures during laser processing

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

Detection and verification of glycosylation patterns of glycoproteins from clinical specimens using lectin microarrays and lectin-based immunosorbent assays

Multistep reactions of water with small Pd<sub>n</sub> clusters  
A first principles study

Mapping microscale wetting variations on biological and synthetic water-repellent surfaces

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

The effect of lipid oxidation on the water permeability of phospholipids bilayers

Superquenching of SYBRGreen dye fluorescence in complex with DNA by gold nanoparticles

Time-Resolved Fluorescence Spectroscopy Reveals Fine Structure and Dynamics of Poly(L-lysine) and Polyethylenimine Based DNA Polyplexes

Internal structure, hygroscopic and reactive properties of mixed sodium methanesulfonate-sodium chloride particles

The maximum Hosoya index of unicyclic graphs with diameter at most four

Resveratrol interferes with the aggregation of membrane-bound human-IAPP  
A molecular dynamics study

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

Key drivers of cloud response to surface-active organics

Spontaneous formation of three-dimensionally ordered Bi-rich nanostructures within GaAs<sub>1-x</sub>Bi<sub>x</sub>/GaAs quantum wells

CO oxidation catalyzed by neutral and anionic Cu<sub>20</sub> clusters  
Relationship between charge and activity

DFT simulations and microkinetic modelling of 1-pentyne hydrogenation on Cu<sub>20</sub> model catalysts

Site-specific analysis of dipole polarizabilities of heterogeneous systems  
Iron-doped  $\text{Si}_n$  ( $n = 1-14$ ) clusters

Growth behavior and magnetic properties of spherical uranium oxide nanoclusters

Density functional theory study of  $\text{FePd}_n$  ( $n = 2-14$ ) clusters and interactions with small molecules

Search for global minimum geometries of medium sized  $\text{Cd}_n\text{Te}_n$  clusters ( $n = 15, 16, 20, 24$  and  $28$ )

Elemental and mixed actinide dioxides  
An ab initio study

Site-specific polarizabilities as predictors of favorable adsorption sites on Nan clusters

Catalytic Activity of AuCu Clusters on  $\text{MgO}(100)$   
Effect of Alloy Composition for CO Oxidation

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

Elucidation of Compression-Induced Surface Crystallization in Amorphous Tablets Using Sum Frequency Generation (SFG) Microscopy

Azobenzene photomechanics  
Prospects and potential applications

Carbon nanotubes-filled thermoplastic polyurethane-urea and carboxylated acrylonitrile butadiene rubber blend nanocomposites

Effects of thinning and heating for  $\text{TiO}_2/\text{AlInP}$  junctions

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

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

Metal chalcogenide quantum dots  
Biotechnological synthesis and applications

Photoinduced Energy Transfer in  $\text{ZnCdSeS}$  Quantum Dot-Phthalocyanines Hybrids

Multiphoton Excitation of  $\text{CsPbBr}_3$  Perovskite Quantum Dots (PQDs)  
How Many Electrons Can One PQD Donate to Multiple Molecular Acceptors?

Equipment for obtaining polymeric nanofibres by electrospinning technology  
II. The obtaining of polymeric nanofibers

Cholesterol driven alteration of the conformation and dynamics of phospholamban in model membranes



Molecular dynamics simulations of the interactions of kinin peptides with an anionic POPG bilayer

Free amino acids and 5'-nucleotides in Finnish forest mushrooms

Taste compound – Nanocellulose interaction assessment by fluorescence indicator displacement assay

Geometry controlled anomalous diffusion in random fractal geometries  
Looking beyond the infinite cluster

Structure, dynamics, and reactivity of hydrated electrons by Ab initio molecular dynamics

Chasing charge localization and chemical reactivity following photoionization in liquid water

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

Accurate description of aqueous carbonate ions  
An effective polarization model verified by neutron scattering

Erosion wear performance of WC-10Co4Cr and Cr<sub>3</sub>C<sub>2</sub>-25NiCr coatings sprayed with high-velocity thermal spray processes

The electrooxidation-induced structural changes of gold di-superatomic molecules  
Au<sub>23</sub> vs. Au<sub>25</sub>

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

Depth profiling of PLGA copolymer in a novel biomedical bilayer using confocal raman spectroscopy

An activity recognition framework deploying the random forest classifier and a single optical heart rate monitoring and triaxial accelerometer wrist-band

Accurate Binding of Sodium and Calcium to a POPC Bilayer by Effective Inclusion of Electronic Polarization

A comparison of five optical surface topography measurement methods

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

Effect of spraying parameters on the microstructural and corrosion properties of HVOF-sprayed Fe-Cr-Ni-B-C coatings

Behavior of  $\beta$ -amyloid 1-16 at the air-water interface at varying pH by nonlinear spectroscopy and molecular dynamics simulations

Morphological and structural changes in laser CVD of silicon  
comparison of theoretical temperature calculations with experimental results

Electromagnetic interference shielding effectiveness of MWCNT filled poly(ether sulfone) and poly(ether imide) nanocomposites

High-resolution coded-aperture design for compressive X-ray tomography using low resolution detectors

Study of the kinetics and mechanism of rapid self-assembly in block copolymer thin films during solvo-microwave annealing

Ballistic and numerical simulation of impacting goods on conveyor belt rubber

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

Atomic-level characterization of transport cycle thermodynamics in the glycerol-3-phosphate  
Phosphate antiporter

Photodiagnostic et chirurgie guidés par la fluorescence  
Translated title of the contribution: : Fluorescence diagnosis and fluorescence-guided surgery

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

Production of sulfonated polyetheretherketone/polypropylene fibers for photoactive textiles

A comparison of rheology and FTIR in the study of polypropylene and polystyrene photodegradation

Detergent impurity effect on recycled HDPE  
Properties after repetitive processing

Multifunctional nitrogen sulfur co-doped reduced graphene oxide – Ag nano hybrids (sphere, cube and wire) for nonlinear optical and SERS applications

Glycerol mediated synthesis of 5-substituted 1H-tetrazole under catalyst free conditions

Kinetics of bioconjugate nanoparticle label binding in a sandwich-type immunoassay

Machine learning analysis of extreme events in optical fibre modulation instability

$\pi$ -Expanded  $\alpha,\beta$ -unsaturated ketones  
Synthesis, optical properties, and two-photon-induced polymerization

A compact olfactometer for IMS measurements and testing human perception

Organic and Printed Electronics  
Fundamentals and Applications

Porphyrin adsorbed on the (1010) surface of the wurtzite structure of ZnO-conformation induced effects on the electron transfer characteristics

Dynamics of a True Moving Bed separation process  
Linear model identification and advanced process control

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

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

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

Decomposition of persistent luminescent microparticles in corrosive phosphate glass melt

Upconversion from fluorophosphate glasses prepared with  $\text{NaYF}_4:\text{Er}^{3+}, \text{Yb}^{3+}$  nanocrystals

Nucleation and growth behavior of  $\text{Er}^{3+}$  doped oxyfluorophosphate glasses

Performance testing of iron based thermally sprayed HVOF coatings in a biomass-fired fluidised bed boiler

Natural thermal adaptation increases heat shock protein levels and decreases oxidative stress

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

Tail-Oxidized Cholesterol Enhances Membrane Permeability for Small Solutes

Positioning information privacy in intelligent transportation systems  
An overview and future perspective

Environmental monitoring with distributed mesh networks  
An overview and practical implementation perspective for urban scenario

PIP2 and Talin Join Forces to Activate Integrin

Crystalline Wax Esters Regulate the Evaporation Resistance of Tear Film Lipid Layers Associated with Dry Eye Syndrome

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

Biomimetic zinc chlorin-poly(4-vinylpyridine) assemblies  
Doping level dependent emission-absorption regimes

DNA lesion can facilitate base ionization  
Vertical ionization energies of aqueous 8-oxoguanine and its nucleoside and nucleotide

Modification of Surface States of Hematite-Based Photoanodes by Submonolayer of  $\text{TiO}_2$  for Enhanced Solar Water Splitting

Monitoring Charge Carrier Diffusion across a Perovskite Film with Transient Absorption Spectroscopy

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

Reversal of the Hofmeister series  
Specific ion effects on peptides

Solvation and ion-pairing properties of the aqueous sulfate anion  
Explicit versus effective electronic polarization

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

Role of the bridge in photoinduced electron transfer in porphyrin-fullerene dyads

A modular brain-on-a-chip for modelling epileptic seizures with functionally connected human neuronal networks

Surface properties and interaction forces of biopolymer-doped conductive polypyrrole surfaces by atomic force microscopy

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

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

Beaming random lasers with soliton control

Interactions of molecular ions with model phospholipid membranes

Nematicon-enhanced spontaneous symmetry breaking

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

Acquiring respiration rate from photoplethysmographic signal by recursive Bayesian tracking of intrinsic modes in time-frequency spectra

Effects of fresh lubricant oils on particle emissions emitted by a modern gasoline direct injection passenger car

Physical and Chemical Characterization of Real-World Particle Number and Mass Emissions from City Buses in Finland

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

Peptide salt bridge stability  
From gas phase via microhydration to bulk water simulations

Modeling photoionization of aqueous DNA and its components

Hydration of the chloride ion in concentrated aqueous solutions using neutron scattering and molecular dynamics

Ion pairing in aqueous lithium salt solutions with monovalent and divalent counter-anions

Transforming anion instability into stability

Contrasting photoionization of three protonation forms of the phosphate ion upon moving into water

Ionization of purine tautomers in nucleobases, nucleosides, and nucleotides

From the gas phase to the aqueous environment

Improvement of actuation performance of dielectric elastomers by barium titanate and carbon black fillers

Vegetable fillers for electric stimuli responsive elastomers

Nanocluster Aerosol Emissions of a 3D Printer

Reversible biofunctionalization of surfaces with a switchable mutant of avidin

Behavior of the DPH fluorescence probe in membranes perturbed by drugs

Structurally Controlled Dynamics in Azobenzene-Based Supramolecular Self-Assemblies in Solid State

Thermal Isomerization of Hydroxyazobenzenes as a Platform for Vapor Sensing

Recent twists in photoactuation and photoalignment control

Azopolymer-based micro- and nanopatterning for photonic applications

The Halogen Bond in the Design of Functional Supramolecular Materials

Recent Advances

Location of the Azobenzene moieties within the cross-linked liquid-crystalline polymers can dictate the direction of photoinduced bending

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

Analysis of GaAsBi growth regimes in high resolution with respect to As/Ga ratio using stationary MBE growth

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

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

Role of Internal Water on Protein Thermal Stability

The Case of Homologous G Domains

Configurational Disorder of Water Hydrogen-Bond Network at the Protein Dynamical Transition

Comparison of starch and gelatin hydrogels for non-toxic supercapacitor electrolytes

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

Modification of epoxy resin by silane-coupling agent to improve tensile properties of viscose fabric composites

Mechanical, thermal, and burning properties of viscose fabric composites  
Influence of epoxy resin modification

Computational studies for the interpretation of gas response of SnO<sub>2</sub>(110) surface

Surface relaxation of the (110) face of rutile SnO<sub>2</sub>

Computational approaches to the chemical sensitivity of semiconducting tin dioxide

Surface relaxation of the (1010) face of wurtzite CdS

Si<sub>10</sub> and photoabsorption spectra of mid-sized silicon clusters

A cluster approach for the SnO<sub>2</sub> (110) face

Rate equation simulation of the height of Schottky barriers at the surface of oxidic semiconductors

Electronic and structural properties of Si<sub>10</sub> cluster

A finite cluster approach to the electron-hole pair damping of the adsorbate vibration  
CO adsorbed on Cu(100)

Potential energy curves for diatomic molecules calculated with numerical basis functions

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

Direct measurement of the kinetic energy shift between the molecular and atomic M<sub>4.5</sub>N<sub>4.5</sub>N<sub>4.5</sub> Auger spectra of iodine

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

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

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

Fabrication of a sub-10 nm silicon nanowire based ethanol sensor using block copolymer lithography

Neutralized chimeric avidin binding at a reference biosensor surface

Robust statistical approaches for RSS-based floor detection in indoor localization

Photophysical properties of Sn (IV)tetraphenylporphyrin-pyrene dyad with a  $\beta$ -vinyl linker

UPS and DFT investigation of the electronic structure of gas-phase trimesic acid

Molecular mechanisms of ion-specific effects on proteins

Multiresonant High-Q Plasmonic Metasurfaces

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

M2M Communication Assessment in Energy-Harvesting and Wake-Up Radio Assisted Scenarios Using Practical Components

Polyarginine Interacts More Strongly and Cooperatively than Polylysine with Phospholipid Bilayers

Heat capacities of crystalline and glassy lithium metaphosphate up to the transition region

Gloriosa superba Mediated Synthesis of Platinum and Palladium Nanoparticles for Induction of Apoptosis in Breast Cancer

The role of highly oxygenated organic molecules in the Boreal aerosol-cloud-climate system

Understanding the reinforcing behavior of expanded clay particles in natural rubber compounds

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

Tube-like natural halloysite/fluoroelastomer nanocomposites with simultaneous enhanced mechanical, dynamic mechanical and thermal properties

Collective excitations and viscosity in liquid Bi

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

Phase diagram of argon clusters

Melting and evaporation of argon clusters

High-Q resonance train in a plasmonic metasurface

Spin filtering in silicene by edges and chemically or electrically induced interfaces

Effect of rheological properties of dissolved cellulose/microfibrillated cellulose blend suspensions on film forming

Supercritical carbon dioxide treatment of hot dip galvanized steel as a surface treatment before coating

Convenient extraction method for quantification of thin zinc patina layers

Halogen-bonded photoresponsive materials

Supramolecular hierarchy among halogen and hydrogen bond donors in light-induced surface patterning

Photoresponsive ionic liquid crystals assembled

Via halogen bond: En route towards light-controllable ion transporters

Ortho-Fluorination of azophenols increases the mesophase stability of photoresponsive hydrogen-bonded liquid crystals

Optical frequency comb photoacoustic spectroscopy

Optical Frequency Comb Photoacoustic Spectroscopy

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

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

Long-Lived Triplet Excited States of Bent-Shaped Pentacene Dimers by Intramolecular Singlet Fission

Machine learning plastic deformation of crystals

Phenothiazine and carbazole substituted pyrene based electroluminescent organic semiconductors for OLED devices

Pyrene based conjugated materials

Synthesis, characterization and electroluminescent properties

Optimal emission enhancement in orthogonal double-pulse laser-induced breakdown spectroscopy

Non-radiative decay and fragmentation in water molecules after  $1s \rightarrow 1s^* 4p$  excitation and core ionization studied by electron-energy-resolved electron-ion coincidence spectroscopy

A Three-Component Assembly Promoted by Boronic Acids Delivers a Modular Fluorophore Platform (BASHY Dyes)

Analytical Expressions for Spring Constants of Capillary Bridges and Snap-in Forces of Hydrophobic Surfaces

The effect of substrate pre-treatment on durability of rubber-stainless steel adhesion

Properties of HVOF-sprayed Stellite-6 coatings

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



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

Bayesian inversion of a forest reflectance model using Sentinel-2 and Landsat 8 satellite images

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

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

Nematicons in azobenzene liquid crystals

Improved electromechanical response in acrylic rubber by different carbon-based fillers

Energy dissipation in natural rubber latex films  
The effect of stabilizers, leaching and acetone-treatment

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

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

Selective hydrogen production at Pt(111) investigated by Quantum Monte Carlo methods for metal catalysis

Spectral object recognition in hyperspectral holography with complex-domain denoising

Kinetics of polymer looping with macromolecular crowding  
Effects of volume fraction and crowder size

Polymer looping is controlled by macromolecular crowding, spatial confinement, and chain stiffness

Low-dimensional formamidinium lead perovskite architectures via controllable solvent intercalation

Benchmarking DFT methods with small basis sets for the calculation of halogen-bond strengths

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

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

London Hybrid Exposure Model  
Improving Human Exposure Estimates to NO<sub>2</sub> and PM<sub>2.5</sub> in an Urban Setting

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

Effect of melting state on the thermal shock resistance and thermal conductivity of APS ZrO<sub>2</sub>-7.5wt.% Y<sub>2</sub>O<sub>3</sub> coatings

Rate constant and thermochemistry for  $K + O_2 + N_2 = KO_2 + N_2$

Optical Projection Tomography Technique for Image Texture and Mass Transport Studies in Hydrogels Based on Gellan Gum

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