Special Issue: From Responsive Materials to Interactive Materials

Simulating the Drag Coefficient of a Spherical Autonomous Underwater Vehicle

From Responsive Molecules to Interactive Materials

Slurry and dry particle erosion wear properties of WC-10Co4Cr and Cr_3C_2-25NiCr hardmetal coatings deposited by HVOF and HVAF spray processes

Effect of microstructure on the abrasive wear resistance of steels with hardness 450 HV

Deformability analysis and improvement in stretchable electronics systems through finite element analysis

Resilient Cooperative Voltage Control for Distribution Network with High Penetration Distributed Energy Resources

Introducing Multi-Convexity in Path Constrained Trajectory Optimization for Mobile Manipulators

Moving Web and Dynamic Problem of Aerothermoelastic Vibrations and Instability

FORMI: A Fast Holonomic Path Planning and Obstacle Representation Method Based on Interval Analysis

Position Estimation for Drones based on Visual SLAM and IMU in GPS-denied Environment

Fabrication of soft devices with buried fluid channels by using sacrificial 3D printed molds

Operating point dependent variable switching point predictive current control for PMSM drives

Direct model predictive power control of a series-connected modular rectifier

Nanocellulose and Polylactic Acid Based Multilayer Coatings for Barrier Applications

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

Effect of polyolefin molecular structure on product properties in extrusion coating

M-Estimator Application in Real-Time Sensor Fusion for Smooth Position Feedback of Heavy-Duty Field Robots

Design and Control of a Flexible Joint as a Hydraulic Series Elastic Actuator for Manipulation Applications

Flux-Weakening Control for IPMSM Employing Model Order Reduction

Model Order Reduction of Bearingless Reluctance Motor Including Eccentricity

Real-time and Robust Collaborative Robot Motion Control with Microsoft Kinect ® v2

Inertial Sensor-Based State Estimation of Flexible Links Subject to Bending and Torsion

Role-based visualization of industrial IoT-based systems

Complete Odometry Estimation of a Vehicle Using Single Automotive Radar and a Gyroscope

Digital image correlation study of the deformation and functioning of the human heart during open-heart surgery

Effects of adiabatic heating estimated from tensile tests with continuous heating

Knowledge-based artificial neural network (KB-ANN) in engineering
Associating functional architecture modeling, dimensional analysis and causal graphs to produce optimized topologies for KB-ANNs

A Reduced-Order Two-Degree-of-Freedom Composite Nonlinear Feedback Control for a Rotary DC Servo Motor

Pneumatically actuated elastomeric device for simultaneous mechanobiological studies & live-cell fluorescent microscopy

Locomotion of light-driven soft microrobots through a hydrogel via local melting

Redundant robotic manipulator path planning for real-time obstacle and self-collision avoidance

Novel equipment to simulate hot air heat sealability of packaging materials

Effect of air gap on the adhesion of PET layer on cardboard substrate in extrusion coating

Novel bio-based materials for active and intelligent packaging

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

Structures and properties of laser-assisted cold-sprayed aluminum coatings

Heat Transfer of Impinging Jet
Effect of Compressibility and Turbulent Kinetic Energy Production

Dimension reduction and decomposition using causal graph and qualitative analysis for aircraft concept design optimization

Solar Panel Breakage During Heavy Rain Caused by Thermal Stress

Framework and feasibility study for pairwise comparison tool

DIC measurements of the human heart during cardiopulmonary bypass surgery

Nanoscale barrier coating on BOPP packaging film by ALD

Development and numerical implementation of an anisotropic continuum damage model for concrete

End-plate connections in Bi-axial bending - Measurements

Evaluating the electrode measurement sensitivity of subdermal electroencephalography electrodes

Recurrence network analysis of wide band oscillations of local field potentials from the primary motor cortex reveals rich dynamics.

On the threshold based neuronal spike detection, and an objective criterion for setting the threshold

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Biomimetic hemo-compatible surfaces of polyurethane by grafting copolymer brushes of poly(ethylene glycol) and poly(phosphorylcholine methacrylate)

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Waves in hyperbolic and double negative metamaterials including rogues and solitons

Superhydrophobic Coatings on Cellulose-Based Materials
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Julkaisun otsikon käännös: : Superhydrophobic Coatings on Cellulosa-Based Materials: Fabrication, Properties, and Applications

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Soft robotic gripper with compliant cell stacks for industrial part handling

Hot-box measurements to investigate the internal convection of highly insulated loose-fill insulation roof structures

Transparent microelectrode arrays fabricated by ion beam assisted deposition for neuronal cell in vitro recordings

Hyperspectral phase imaging based on denoising in complex-valued eigensubspace

Circular dichroism in the second harmonic field evidenced by asymmetric AU coated gaas nanowires

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

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Asymptotics and approximation of large systems of ordinary differential equations

Avoiding the high friction peak in fretting contact

Käyräviivaiset koordinaatistot kontinuumimekaniikassa

FEM-based wear simulation for fretting contacts

Assessment of pitting corrosion in bare and passivated (wet $scCO_2$-induced patination and chemical passivation) hot-dip galvanized steel samples with SVET, FTIR, and SEM (EDS)

An exploratory study on strengthening and thermal stability of magnetron sputtered W nanoparticles at the interface of Cu/Ni multilayer films

Phosphate/oxyfluorophosphate glass crystallization and its impact on dissolution and cytotoxicity

CFD modeling the diffusional losses of nanocluster-sized particles and condensing vapors in 90° bends of circular tubes

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

Low temperature afterglow from $SrAl_2O_4$
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Probabilistic approach to physical object disentangling

Multi-sensor next-best-view planning as matroid-constrained submodular maximization

ILC1 drive intestinal epithelial and matrix remodelling

Potential of renewable fuel to reduce diesel exhaust particle emissions

Prediction of contact condition and surface damage by simulating variable friction coefficient and wear

Running-in in fretting, transition from near-stable friction regime to gross sliding

Tribocorrosion behaviour of two low-alloy steel grades in simulated waste solution

Vehicle type detection and passenger satisfaction analysis using smartphone sensors and digital surveys

Multiresonant High-Q Plasmonic Metasurfaces

Shedding frequency in cavitation erosion evolution tracking

Detection of gaseous species during KCl-induced high-temperature corrosion by the means of CPFAAS and CI-APi-TOF

Pneumatic unidirectional cell stretching device for mechanobiological studies of cardiomyocytes

Fluorine losses in Er^{3+}oxyfluoride phosphate glasses and glass-ceramics

Elevated and cryogenic temperature micropillar compression of magnesium–niobium multilayer films

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

Characterization of cracks formed in large flat-on-flat fretting contact

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

Bioactive glass ions induce efficient osteogenic differentiation of human adipose stem cells encapsulated in gellan gum and collagen type I hydrogels

Assessing population vulnerability towards summer energy poverty
Case studies of Madrid and London

Mass balance control of crushing circuits

Employing Knowledge on Causal Relationship to Assist Multidisciplinary Design Optimization

Nonlinear model predictive energy management of hydrostatic drive transmissions

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Stable and unstable friction in fretting contacts

The potential of electric trucks – An international commodity-level analysis

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

Evaluating retrofit options in a historical city center
Relevance of bio-based insulation and the need to consider complex urban form in decision-making

An Artificial Nocturnal Flower via Humidity-Gated Photoactuation in Liquid Crystal Networks

Behaviour of leaded tin bronze in simulated seawater in the absence and presence of tribological contact with alumina counterbody
Corrosion, wear and tribocorrosion

Impact wear and mechanical behavior of steels at subzero temperatures

Remote diagnostics application software for remote handling equipment

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Effect of temperature (1050–1200°C) on the sintering and properties

Running-in effects on friction of journal bearings under slow sliding speeds

Variable speed digital hydraulic transformer–based servo drive

Dissolution, bioactivity and osteogenic properties of composites based on polymer and silicate or borosilicate bioactive glass

Investigation on positioning control strategy and switching optimization of an equal coded digital valve system

Deposition of dry particles on a fin-and-tube heat exchanger by a coupled soft-sphere DEM and CFD

Kirigami-Based Light-Induced Shape-Morphing and Locomotion

Variable speed drive with hydraulic boost

Less Is More
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Enhanced multiaxial fatigue criterion that considers stress gradient effects

Icephobicity of Slippery Liquid Infused Porous Surfaces under Multiple Freeze–Thaw and Ice Accretion–Detachment Cycles

Solvothermal synthesis derived Co-Ga codoped ZnO diluted magnetic degenerated semiconductor nanocrystals

Experimental and numerical study of wall layer development in a tribocharged fluidized bed

Enhanced resonant nonlinear absorption and optical limiting in Er^{3+} ions doped multicomponent tellurite glasses

Persistent luminescent borosilicate glasses using direct particles doping method

Luminescence of Er^{3+} doped oxyfluoride phosphate glasses and glass-ceramics

Computational design of a novel medium-carbon, low-alloy steel microalloyed with niobium

Investigating the kinetics and biofuel properties of Alstonia congensis and Ceiba pentandra via torrefaction

Hydrazone crosslinked hyaluronan-based hydrogels for therapeutic delivery of adipose stem cells to treat corneal defects

Generic platform for manufacturing execution system functions in knowledge-driven manufacturing systems

Analysis of common rail pressure signal of dual-fuel large industrial engine for identification of injection duration of pilot diesel injectors

Conjugated Heat Transfer Simulation of a Fin-and-Tube Heat Exchanger

Light Robots: Bridging the Gap between Microrobotics and Photomechanics in Soft Materials

Fin-and-tube heat exchanger enhancement with a combined herringbone and vortex generator design

Erosive-abrasive wear behavior of carbide-free bainitic and boron steels compared in simulated field conditions

Techno-economic evaluation of integrating torrefaction with anaerobic digestion

Ultrafast Processing of Hierarchical Nanotexture for a Transparent Superamphiphobic Coating with Extremely Low Roll-Off Angle and High Impalement Pressure

TOpti
a flexible framework for optimising energy management for various ship machinery topologies

Global energy consumption due to friction and wear in the mining industry

Noncovalent functionalization of reduced graphene oxide with pluronic F127 and its nanocomposites with gum arabic

Adaptive and nonlinear control of discharge pressure for variable displacement axial piston pumps

Feed-hopper level estimation and control in cone crushers

Statistical analysis of E-jet print parameter effects on Ag-nanoparticle ink droplet size

Democratizing composites manufacturing -inexpensive tooling empowers new players

Dynamic speckle analysis with smoothed intensity-based activity maps

A fractional representation approach to the robust regulation problem for SISO systems

Concepts, methods and tools for individualized production

Effect of energy measures on the values of energy efficiency indicators in Finnish daycare and school buildings

Chip-by-chip configurable interconnection using digital printing techniques

Synchronous Full-Field Strain and Temperature Measurement in Tensile Tests at Low, Intermediate and High Strain Rates

Characterization of the microstructure and corrosion performance of Ce-alloyed Nd-Fe-B magnets

Third Particle Ejection Effects on Wear with Quenched and Tempered Steel Fretting Contact

Do properties of bioactive glasses exhibit mixed alkali behavior?

Thermal, structural and in vitro dissolution of antimicrobial copper-doped and slow resorbable iron-doped phosphate glasses

Optimizing ammonium adsorption on natural zeolite for wastewaters with high loads of ammonium and solids

Digital hydraulic multi-pressure actuator – the concept, simulation study and first experimental results

Vapor Phase Fabrication of Nanoheterostructures Based on ZnO for Photoelectrochemical Water Splitting

On the effect of deformation twinning and microstructure to strain hardening of high manganese austenitic steel 3D microstructure aggregates at large strains

Effect of finish rolling and quench stop temperatures on impact-abrasive wear resistance of 0.35 % carbon direct-quenched steel

Multicriteria selection in concept design of a divertor remote maintenance port in the EU DEMO reactor using an AHP participative approach

Experimental and numerical investigation of fretting fatigue behavior in bolted joints

The effect of initial microstructure on the final properties of press hardened 22MnB5 steels

Consideration of energy consumption, energy costs, and space occupancy in Finnish daycare centres and school buildings

A comparison of relative displacement fields between numerical predictions and experimental results in fretting contact

Barkhausen noise response of three different welded duplex stainless steels

Spontaneous formation of three-dimensionally ordered Bi-rich nanostructures within $GaAs_{1-x}Bi_x$/GaAs quantum wells

The role of niobium in improving toughness and corrosion resistance of high speed steel laser hardfacings

High-order lattice-Boltzmann

Toward the Atomically Abrupt Interfaces of SiO_x/Semiconductor Junctions

Improving the toughness of thermally sprayed Cr_3C_2-NiCr hardmetal coatings by laser post-treatment

Effects of strain rate and confining pressure on the compressive behavior of Kuru granite

Chemical synthesis of WC-Co from water-soluble precursors
The effect of carbon and cobalt additions to WC synthesis

Influence of specimen type and reinforcement on measured tension-tension fatigue life of unidirectional GFRP laminates

Static friction measurements on steel against uncoated and coated cast iron

Normal displacements in non-Coulomb friction conditions during fretting

Wear and impact behaviour of High Velocity Air-Fuel sprayed Fe-Cr-Ni-B-C alloy coatings

Comparative environmental impacts of additive and subtractive manufacturing technologies

Effects of added glazing on Balcony indoor temperatures
Field measurements

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

Improving the thermal performance of concrete-sandwich envelopes in relation to the moisture behaviour of building structures in boreal conditions

Erbium-doped borosilicate glasses containing various amounts of P2O5 and Al2O3
Influence of the silica content on the structure and thermal, physical, optical and luminescence properties

Impact of building usage and occupancy on energy consumption in Finnish daycare and school buildings

Analysis of thermo-active pile structures and their performance under groundwater flow conditions

Analysing traffic fluency from bus data

Improved dimensional stability with bioactive glass fibre skeleton in poly(lactide-co-glycolide) porous scaffolds for tissue engineering

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

Divertor remote handling for DEMO
Concept design and preliminary FMECA studies

Fretting-induced friction and wear in large flat-on-flat contact with quenched and tempered steel

Transfer printing of metallic microstructures on adhesion-promoting hydrogel substrates

Smart Skins
Could they be the ultimate sensing tool? Today\uFFFDs industry and personal medical care both strongly demand accurate, reliable, robust, lo

Corrosion mechanisms of sintered Nd-Fe-B magnets in the presence of water as vapour, pressurised vapour and liquid

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

Effect of Multiple Impacts on the Deformation of Wear-Resistant Steels

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

A comparison of five optical surface topography measurement methods

Measured energy consumption of educational buildings in a Finnish city

The correlation between gear contact friction and ball on disc friction measurements
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Experimental study on the behavior of wear resistant steels under high velocity single particle impacts

The deformation, strain hardening, and wear behavior of chromium-alloyed hadfield steel in abrasive and impact conditions

Fe_2O_3-TiO_2 Nano-heterostructure Photoanodes for Highly Efficient Solar Water Oxidation

Detection beyond Debye's length with an electrolyte-gated organic field-effect transistor

Mechanically Switchable Elastomeric Microfibrillar Adhesive Surfaces for Transfer Printing

Graphoepitaxial Directed Self-Assembly of Polystyrene-Block-Polydimethylsiloxane Block Copolymer on Substrates Functionalized with Hexamethyldisilazane to Fabricate Nanoscale Silicon Patterns

High performance natural rubber composites with a hierarchical reinforcement structure of carbon nanotube modified natural fibers

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

A near-infrared optoelectronic approach to detection of road conditions

Controlling liquid spreading using microfabricated undercut edges

Electrolyte-gated organic field-effect transistor sensors based on supported biotinylated phospholipid bilayer

New design of textile light diffusers for photodynamic therapy

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

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

Naturally occurring amino acids
A suitable substitute of N-N/-di-phenyl guanidine (DPG) in silica tyre formulation?

Co-electrospun blends of PU and PEG as potential biocompatible scaffolds for small-diameter vascular tissue engineering

Implementation of a direct procedure for critical point computations using preconditioned iterative solvers

Highly conducting polychloroprene composites based on multi-walled carbon nanotubes and 1-butyl 3-methyl imidazolium bis(trifluoromethylsulphonyl)imide

Redox-active, organometallic surface-relief gratings from azobenzene-containing polyferrocenylsilane block copolymers

Development of expanded graphite filled natural rubber vulcanizates in presence and absence of carbon black
Mechanical, thermal and morphological properties

Cost optimal and nearly zero (nZEB) energy performance calculations for residential buildings with REHVA definition for nZEB national implementation

Optical interference lithography using azobenzene-functionalized polymers for micro-and nanopatterning of silicon

Self-alignment of RFID dies on four-pad patterns with water droplet for sparse self-assembly

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

Optimised selection of new protective coatings for biofuel boiler applications

Hexaferrite/polyethylene Composite coatings prepared with flame spraying

Self-alignment in the stacking of microchips with mist-induced water droplets

The effect of phosphorous and arsenic on the fracture behaviour of a 2,25% Cr-1% Mo Steel