Applications of nanocellulose/nanocarbon composites: Focus on biotechnology and medicine
Research output: Contribution to journal › Review Article › Scientific › peer-review

Co-culture of human induced pluripotent stem cell-derived retinal pigment epithelial cells and endothelial cells on double collagen-coated honeycomb films
Research output: Contribution to journal › Article › Scientific › peer-review

Co-stimulation with IL-1β and TNF-α induces an inflammatory reactive astrocyte phenotype with neurosupportive characteristics in a human pluripotent stem cell model system
Research output: Contribution to journal › Article › Scientific › peer-review

Controlled Physiologically Relevant Conditions in a Portable Hypoxic Cell Culture Incubator
Research output: Other conference contribution › Paper, poster or abstract › Scientific

Nanocellulose films as substrates for printed electronics
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Pneumatic unidirectional cell stretching device for mechanobiological studies of cardiomyocytes
Research output: Contribution to journal › Article › Scientific › peer-review

Online Scent Classification by Ion-Mobility Spectrometry Sequences
Research output: Contribution to journal › Article › Scientific › peer-review

Correlation of Surface Morphology and Interfacial Adhesive Behavior between Cellulose Surfaces: Quantitative Measurements in Peak-Force Mode with the Colloidal Probe Technique
Research output: Contribution to journal › Article › Scientific › peer-review

A compartmentalized neuron-oligodendrocyte co-culture device for myelin research: design, fabrication and functionality testing
Research output: Contribution to journal › Article › Scientific › peer-review

Versatile Application of Nanocellulose: From Industry to Skin Tissue Engineering and Wound Healing
Research output: Contribution to journal › Review Article › Scientific › peer-review

Scent Classification by K Nearest Neighbors using Ion-Mobility Spectrometry Measurements
Research output: Contribution to journal › Article › Scientific › peer-review
A Portable Microscale Cell Culture System with Indirect Temperature Control
Research output: Contribution to journal › Article › Scientific › peer-review

Transportable system enabling multiple irradiation studies under simultaneous hypoxia in vitro
Research output: Contribution to journal › Article › Scientific › peer-review

Portable cell culture device for maintaining low oxygen environment: CASE STUDY - proliferation of fibroblasts under hypoxic conditions
Kreutzer, J., Jokinen, M. & Kallio, P., 8 Nov 2018.
Research output: Other conference contribution › Paper, poster or abstract › Scientific

Microelectrode array for noninvasive analysis of cardiomyocytes at the single-cell level
Research output: Contribution to journal › Article › Scientific › peer-review

Optimizing elastomeric mechanical cell stretching device
Research output: Other conference contribution › Paper, poster or abstract › Professional

Olfactory display prototype for presenting and sensing authentic and synthetic odors
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

A compact olfactometer for IMS measurements and testing human perception
Research output: Contribution to journal › Article › Scientific › peer-review

Modeling and Control of Microscale Cell Culture Environments
Mäki, A-J., 16 Aug 2018, Tampere University of Technology. 59 p. (Tampere University of Technology. Publication; vol. 1557)
Research output: Book/Report › Doctoral thesis › Collection of Articles

Thermal and mechanical behaviour of flax yarns modified with graphene oxide
Research output: Other conference contribution › Paper, poster or abstract › Scientific

Mini-incubator for prolonged hypoxia studies on MEA: Effect of hypoxia for iPSC-derived cardiomyocytes
Research output: Other conference contribution › Paper, poster or abstract › Scientific

High throughput mechanical micro-scale characterization of composites and the utilization of the results in finite element analysis
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review
Platform for controlling cellular environment
Research output: Other conference contribution › Paper, poster or abstract › Scientific

Modeling in vitro cell culture microenvironments
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Hydrazone crosslinked hyaluronan-based hydrogels for therapeutic delivery of adipose stem cells to treat corneal defects
Research output: Contribution to journal › Article › Scientific › peer-review

A portable live-cell imaging system with an invert-upright-convertible architecture and a mini-bioreactor for long-term simultaneous cell imaging, chemical sensing and electrophysiological recording
Research output: Contribution to journal › Article › Scientific › peer-review

Screen-printed curvature sensors for soft robots
Research output: Contribution to journal › Article › Scientific › peer-review

Cellulose Nanofiber Alignment Using Evaporation-Induced Droplet-Casting, and Cell Alignment on Aligned Nanocellulose Surfaces
Research output: Contribution to journal › Article › Scientific › peer-review

Optimised PDMS tunnel devices on MEAs increase the probability of detecting electrical activity from human stem cell-derived neuronal networks
Research output: Contribution to journal › Article › Scientific › peer-review

Fluorimetric oxygen sensor with an efficient optical read-out for in vitro cell models
Research output: Contribution to journal › Article › Scientific › peer-review

Pneumatically actuated elastomeric device for simultaneous mechanobiological studies & live-cell fluorescent microscopy
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The effect of equiaxial stretching on the osteogenic differentiation and mechanical properties of human adipose stem cells
Research output: Contribution to journal › Article › Scientific › peer-review

A durable and biocompatible ascorbic acid-based covalent coating method of polydimethylsiloxane for dynamic cell culture
Cell culture chamber with gas supply for prolonged recording of human neuronal cells on microelectrode array

Computer Vision Measurements for Automated Microrobotic Paper Fiber Studies
Hirvonen, J., 10 Feb 2017, Tampere University of Technology. 90 p. (Tampere University of Technology. Publication; vol. 1456)

Automated high-throughput microbond tester for interfacial shear strength studies

Covalently coated cell stretching devices for osteogenic differentiation of human adipose stem cells

Dispenser system for nanocellulose 3D printing

Engineering and Characterization of Bacterial Nanocellulose Films as Low Cost and Flexible Sensor Material

Mini-incubator For Prolonged Cell Culture, MEA, And Hypoxia Studies Outside An Incubator

Challenges and capabilities of conductive polymeric materials for electromechanical stimulation of stem cells: A case study

Nanocellulose based piezoelectric sensors

Cell Stretching Device for Live-Cell Confocal Microscopy

Automated Estimation of Contact Angle on Hydrophobic Fibers using a Microrobotic Platform
Study of Adhesion Force between Cellulose Micro-sphere and Cellulose Membrane
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Nanocellulose based piezoelectric sensors
Research output: Other conference contribution › Paper, poster or abstract › Scientific

A novel micro-robotic approach to study the environmental degradation of matrix and fibre materials

Design and simulation of a thermal flow sensor for gravity-driven microfluidic applications
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Determination of environmental degradation of matrix and fibre materials with a novel, statistically reliable micro-robotic approach
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

CytoSpectre: A tool for spectral analysis of oriented structures on cellular and subcellular levels
Research output: Contribution to journal › Article › Scientific › peer-review

Adhesive Behavior Study Between Cellulose and Borosilicate Glass Using Colloidal Probe Technique
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Automated Microrobotic Manipulation of Paper Fiber Bonds
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Automatic image-based detection and inspection of paper fibres for grasping
Research output: Contribution to journal › Article › Scientific › peer-review

Electroplated nickel microspring and low-friction precision linear slider: A novel micro-force sensing tool
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Microrobotic system for multi-rate measurement of bio-based fibres Z-directional bond strength
Research output: Contribution to journal › Article › Scientific › peer-review

Modeling and Experimental Characterization of Pressure Drop in Gravity-Driven Microfluidic Systems
Research output: Contribution to journal › Article › Scientific › peer-review

**PVDF Microforce Sensor for the Measurement of Z-directional Strength in Paper Fiber Bonds**

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

**Data Rate Performance of Droplet Microfluidic Communication System**

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

**Industrial Tools for micromanipulation**

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific

**In situ hybridization of pulp fibres using Mg-Al layered double hydroxides**

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

**Integration of microfluidic sample delivery system on silicon nanowire-based biosensor**

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

**Automated drop-on-fiber contact angle measurement using a microrobotic platform**

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

**Computational Modeling and Structural Improvement of a Pneumatically Actuated Concentric Double-Shell Structure for Cell Stretching**

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

**Design and Implementation of an Illumination System for Microrobotic Paper Fiber Studies**

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

**Experimental Evaluation of Z-Directional Fibre-Fibre Bond Strength using Microrobotics**

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

**Image-based Measurements of Paper Fibers for Automatic Manipulation**

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

**Integrated microfluidic culture environments for in vitro cell studies**
Integrating Robotic Software Frameworks for Convenient Software Component Exchange in Micro- and Nanoscale Applications

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

Label-Free and Rapid Electrical Detection of hTSH with CMOS-Compatible Silicon Nanowire Transistor Arrays

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

Measuring resistivity of silicon nanowire using pseudo-random binary sequence injection

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

Mechanical analysis of a pneumatically actuated concentric double-shell structure for cell stretching

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

Methods for Rapid Frequency-Domain Characterization of Leakage Currents in Silicon Nanowire-Based Field-Effect Transistors

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

Modeling Drug Delivery in Gravity-Driven Microfluidic System

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

Photocontrol of Mechanical Properties of Pulp Fibers and Fiber-to-Fiber Bonds via Self-Assembled Polysaccharide Derivatives

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

Pneumatic cell stretching system for cardiac differentiation and culture

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

Releasing tool-adhered natural fibrous microscale objects with vacuum system

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

Robotic software frameworks and software component models in the development of automated handling of individual natural fibers

Research output: Contribution to journal › Article › Scientific › peer-review
Semi-automatic Measurement of Microfibril Angle on a Microrobotic Platform
Research output: Chapter in Book/Report/conference proceeding › Conference contribution › Scientific › peer-review

The Effect of Refining on Z-directional Strength of Bleached Softwood Kraft Pulp Fibre Bonds using Microrobotics
Research output: Chapter in Book/Report/conference proceeding › Conference contribution › Scientific › peer-review

Integration of Microfluidic System with Silicon Nanowires Biosensor for Multiplexed Detection
Research output: Chapter in Book/Report/conference proceeding › Conference contribution › Scientific › peer-review

Kohti automaattista yksittäisten paperikuitujen manipulointia
Research output: Chapter in Book/Report/conference proceeding › Conference contribution › Scientific › peer-review

Method for Investigations of Aged Fibre-Fibre Bonds with Micro and Nanorobotic Tools
Research output: Chapter in Book/Report/conference proceeding › Conference contribution › Scientific › peer-review

Scale and Rotation Invariant Two View Microgripper Detection that Uses a Planar Pattern
Research output: Chapter in Book/Report/conference proceeding › Conference contribution › Scientific › peer-review

Towards Fully Automated Pick and Place Operations of Individual Natural Fibers
Research output: Chapter in Book/Report/conference proceeding › Conference contribution › Scientific › peer-review

Washing Durability of Embroidered Polymer Coated RFID Tags
Research output: Chapter in Book/Report/conference proceeding › Conference contribution › Scientific › peer-review

A flexible microrobotic platform for handling microscale specimens of fibrous materials for microscopic studies
Control software for automated microrobotic paper fiber characterization
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Dried nanoparticle label reagents for microfluidic immunoassays
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Flexibility measurement of individual paper fibers using microrobotics platform
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Microrobotic platform for manipulation and flexibility measurement of individual paper fibres
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

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

New pneumatically actuated PDMS system for liquid handling in SPR devices
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Perfusion characterization using flow simulations and µPIV measurements
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Sample volume metering in a disposable microfluidic cartridge
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Solubility of dried nanoparticles and their nonspecific binding in microfluidic polystyrene channels
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Tekesin rahoituksella kehitetään analytiikkaa myrkyllisten sinilevien tunnistamiseen
Research output: Contribution to journal › Article › Professional

The effects of laser welding on the heterogeneous immunoassay performance in a microfluidic cartridge
Volume estimation of a liquid plug in a microchannel using a machine vision system
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Microrobotics platform for characterization and treatment of single paper fibres
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Development of a Parallel Composite-Joint Piezohydraulic Micromanipulator
Kallio, P., 19 Dec 2002, Tampere University of Technology. 156 p. (Tampere University of Technology. Publications; vol. 405)
Research output: Book/Report › Doctoral thesis › Collection of Articles