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 › Article › Scientific › peer-review

Scent Classification by K Nearest Neighbors using Ion-Mobility Spectrometry Measurements
Research output: Contribution to journal › Review 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
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
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

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

Data Rate Performance of Droplet Microfluidic Communication System

Industrial Tools for micromanipulation

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

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

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

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

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

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

Kohiti automaattista yksittäisten paperiikuitujen manipulointia
Translated title of the contribution: Kohiti automaattista yksittäisten paperiikuitujen 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

Three-dimensional calibration of micromanipulators using stereo vision
Research output: Contribution to journal › Article › 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
Characterizing leakage current in silicon nanowire-based field-effect transistors by applying pseudo-random sequences

Digital Imaging and Piezo-dispenser Actuator in Automatic Flocculation Control

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

Pseudo-random sequences in analysis of polyvinylidene fluoride piezoelectric sensors

Rapid, simple, and cost-effective treatments to achieve long-term hydrophilic PDMS surfaces

Small and Flexible Metal Mountable Passive UHF RFID Tag on High-Dielectric Polymer-Ceramic Composite Substrate

Structured PDMS chambers for enhanced human neuronal cell activity on MEA platforms

Vision based 3D calibration of micromanipulator in microrobotic fiber characterization platform

Automated Grasping in Manipulation of Individual Paper Fibers

Automatic image-based detection of paper fiber ends
Displacement control of piezoelectric actuators using current and voltage
Research output: Contribution to journal › Article › Scientific › peer-review

Fine Structure of Papermaking Fibres: The Final Report of COST Action E54 "Characterization of the fine structure and properties of papermaking fibres using new technologies"
Research output: Book/Report › Anthology › Scientific › peer-review

Microrobotic platform for making, manipulating and breaking individual paper fibre bonds
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The Effects of Laser Welding on the Heterogeneous Immunoassay Performance in a Microfluidic Cartridge
Research output: Contribution to journal › Article › Scientific › peer-review

Towards automated manipulation and characterization of paper-making fibres and its components
Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific

Automated handling of bio-nanowires for nanopackaging
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Compensation of detent torque in microstepping of linear permanent magnet stepping motors
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

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**

**Microrobotics platform for characterization and treatment of single paper fibres**

**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)