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

Cell culture chamber with gas supply for prolonged recording of human neuronal cells on microelectrode array
Research output: Contribution to journal › Article › Scientific › peer-review

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)
Research output: Book/Report › Doctoral thesis › Collection of Articles

Automated high-throughput microbond tester for interfacial shear strength studies
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Covalently coated cell stretching devices for osteogenic differentiation of human adipose stem cells
Research output: Other conference contribution › Paper, poster or abstract › Scientific

Dispenser system for nanocellulose 3D printing
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional
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

Nanocellulose based piezoelectric sensors

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

Determination of environmental degradation of matrix and fibre materials with a novel, statistically reliable micro-robotic approach
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: Contribution to journal › Article › Scientific › peer-review

Design and Implementation of an Illumination System for Microrobotic Paper Fiber Studies
Research output: Contribution to journal › Article › Scientific › peer-review

Experimental Evaluation of Z-Directional Fibre-Fibre Bond Strength using Microrobotics
Research output: Contribution to journal › Article › Scientific › peer-review

Image-based Measurements of Paper Fibers for Automatic Manipulation
Research output: Contribution to journal › Article › Scientific › peer-review

Integrated microfluidic culture environments for in vitro cell studies
Research output: Contribution to journal › Article › Scientific › peer-review

Integrating Robotic Software Frameworks for Convenient Software Component Exchange in Micro- and Nanoscale Applications
Research output: Contribution to journal › Article › 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
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: Contribution to journal › Article › 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

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

Characterizing leakage current in silicon nanowire-based field-effect transistors by applying pseudo-random sequences
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Digital Imaging and Piezo-dispenser Actuator in Automatic Flocculation Control
Research output: Contribution to journal › Article › Scientific › peer-review

Integration of microfluidic sample delivery system on silicon nanowire-based biosensor
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Pseudo-random sequences in analysis of polyvinylidene fluoride piezoelectric sensors
Rapid, simple, and cost-effective treatments to achieve long-term hydrophilic PDMS surfaces
Research output: Contribution to journal › Article › Scientific › peer-review

Small and Flexible Metal Mountable Passive UHF RFID Tag on High-Dielectric Polymer-Ceramic Composite Substrate
Research output: Contribution to journal › Article › Scientific › peer-review

Structured PDMS chambers for enhanced human neuronal cell activity on MEA platforms
Research output: Contribution to journal › Article › Scientific › peer-review

Vision based 3D calibration of micromanipulator in microrobotic fiber characterization platform
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Automated Grasping in Manipulation of Individual Paper Fibers
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Automatic image-based detection of paper fiber ends
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

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

Konenäköalgoritmien käyttö mikrosysteemiteknikan tutkimuksessa
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

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

Microrobotic platform for manipulation and mechanical characterization of individual paper fibres
Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific

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

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

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