A Portable Microscale Cell Culture System with Indirect Temperature Control
Lekkala, J. & Kallio, P., 1 Dec 2018, In : SLAS Technology. 23, 6, p. 566-579
Research output: Contribution to journal › Article › Scientific › peer-review

Transportable system enabling multiple irradiation studies under simultaneous hypoxia in vitro
ONCOLOGY. 13, 220, 11 p.
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
Salmminen, K., Rantaia, J., Isokoski, P., Lehtonen, M., Müller, P., Karjalainen, M., Väläaho, J., Kontunen, A., Nieminen, V.,
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

A compact olfactometer for IMS measurements and testing human perception
Nieminen, V., Karjalainen, M., Salminen, K., Rantaia, J., Kontunen, A., Isokoski, P., Müller, P., Kallio, P., Surakka, V. &
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
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
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

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

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

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
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

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)