Center for Intelligent Drug Delivery and Sensing Using Microcontainers and Nanomechanics - DTU Orbit (25/03/2018)

Publications:

Development of electrosprayed mucoadhesive chitosan microparticles
Publication: Research - peer-review › Journal article – Annual report year: 2018

Tailoring stress in pyrolytic carbon for fabrication of nanomechanical string resonators
Publication: Research - peer-review › Journal article – Annual report year: 2018

Mucin dispersions as a model for the oromucosal mucus layer in in vitro and ex vivo buccal permeability studies of small molecules
Publication: Research - peer-review › Journal article – Annual report year: 2017

A METHOD FOR PREPARING A SUBSTRATE BY APPLYING A SAMPLE TO BE ANALYSED
Durucan, O., Schmidt, M. S., Rindzevicius, T. & Boisen, A. 9 Nov 2017
Publication: Research › Patent – Annual report year: 2017

Micro-fabrication of three dimensional pyrolysed carbon microelectrodes
Hemanth, S., Keller, S. S., Caviglia, C. & Amato, L. 30 Mar 2017
Publication: Research › Patent – Annual report year: 2017

A nanofiltration technique for analyte extraction from complex matrix and surface enhanced Raman spectroscopy based sensing
Durucan, O., Rindzevicius, T., Schmidt, M. S., Ilchenko, O. & Boisen, A. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

A pseudo-Voigt component model for high-resolution recovery of constituent spectra in Raman spectroscopy
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Blu-Ray-based micromechanical characterization platform for biopolymer degradation assessment
Publication: Research - peer-review › Journal article – Annual report year: 2016

Challenges in the integration of silicon SERS substrates into a polypropylene injection moulded microfluidic chip
Serioli, L., Morelli, L., Matteucci, M., Zor, K. & Boisen, A. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Detection of Surface-Linked Polychlorinated Biphenyls using Surface-Enhanced Raman Scattering Spectroscopy
Publication: Research - peer-review › Journal article – Annual report year: 2017
Fabrication of completely free-standing pyrolytic carbon string resonators
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Hand-Held Femtogram Detection of Hazardous Picric Acid with 2 Hydrophobic Ag Nanopillar SERS Substrates and Mechanism of 3 Elasto-Capillarity
Publication: Research - peer-review › Journal article – Annual report year: 2017

High-Throughput Fabrication of Nanocone Substrates through Polymer Injection Moulding For SERS Analysis in Microfluidic Systems
Viehrig, M., Matteucci, M., Thilsted, A. H., Schmidt, M. S. & Boisen, A. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Lab-on-a-disc platform for screening of genetically modified E. coli cells via cell-free electrochemical detection of p-Coumaric acid
Publication: Research - peer-review › Journal article – Annual report year: 2017

Large-scale, Lithography-free Production of Transparent Nanostructured Surface for Dual-functional Electrochemical and SERS Sensing
Publication: Research - peer-review › Journal article – Annual report year: 2017

Loading of Drug-Polymer Matrices in Microreservoirs for Oral Drug Delivery
Petersen, R. S., Keller, S. S. & Boisen, A. 2017 In : Macromolecular Materials & Engineering. 302, 3, 6 p., 1600366
Publication: Research - peer-review › Journal article – Annual report year: 2016

Microcontainers as an oral delivery system for spray dried cubosomes containing ovalbumin
Publication: Research - peer-review › Journal article – Annual report year: 2016

MICROCONTAINERS FOR INTESTINAL DRUG DELIVERY: in vivo and ex vivo study
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Modelling the thermal properties of large diameter fibre ropes
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

Nanomechanical Infrared Spectroscopy with Vibrating Filters for Pharmaceutical Analysis
Publication: Research - peer-review › Journal article – Annual report year: 2017
Numerical Optimization in Microfluidics
Publication: Research - peer-review › Book chapter – Annual report year: 2017

Position and mode dependent optical detection back-action in cantilever beam resonators
Publication: Research - peer-review › Journal article – Annual report year: 2017

Powder embossing method for selective loading of polymeric microcontainers with drug formulation
Publication: Research - peer-review › Journal article – Annual report year: 2017

SERS detection of the biomarker hydrogen cyanide from Pseudomonas aeruginosa cultures isolated from cystic fibrosis patients
Publication: Research - peer-review › Journal article – Annual report year: 2017

Surface Enhanced Raman Scattering for Quantification of p-Coumaric Acid Produced by Escherichia coli
Publication: Research - peer-review › Journal article – Annual report year: 2017

A substrate and a method of using it
Publication: Research › Patent – Annual report year: 2016

Blu-ray based optomagnetic aptasensor for detection of small molecules
Publication: Research - peer-review › Journal article – Annual report year: 2016

Detection methods for centrifugal microfluidic platforms
Burger, R., Amato, L. & Boisen, A. 2016 In : Biosensors and Bioelectronics. 76, p. 54-67
Publication: Research - peer-review › Journal article – Annual report year: 2016

Detection of nerve gases using surface-enhanced Raman scattering substrates with high droplet adhesion
Publication: Research - peer-review › Journal article – Annual report year: 2016

Experimentation and numerical modeling of cyclic voltammetry for electrochemical micro-sized sensors under the influence of electrolyte flow
Publication: Research - peer-review › Journal article – Annual report year: 2016

Lab-on-a-disc agglutination assay for protein detection by optomagnetic readout and optical imaging using nano- and micro-sized magnetic beads
Publication: Research - peer-review › Journal article – Annual report year: 2016
Lithography-Free Fabrication of Silica Nanocylinders with Suspended Gold Nanorings for LSPR-Based Sensing
Publication: Research - peer-review › Journal article – Annual report year: 2016

Microcontainers - an oral drug delivery system for poorly soluble drugs
Publication: Research - peer-review › Poster – Annual report year: 2016

Microcontainers as an oral drug delivery system
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Nanomechanical IR spectroscopy for fast analysis of liquid-dispersed engineered nanomaterials
Publication: Research - peer-review › Journal article – Annual report year: 2016

Nanomechanical Pyrolytic Carbon Resonators: Novel Fabrication Method and Characterization of Mechanical Properties
Publication: Research - peer-review › Journal article – Annual report year: 2016

Polymeric microcontainers improve oral bioavailability of furosemide
Publication: Research - peer-review › Journal article – Annual report year: 2016

Supercritical impregnation of polymer matrices spatially confined in microcontainers for oral drug delivery: Effect of temperature, pressure and time
Publication: Research - peer-review › Journal article – Annual report year: 2015

Surface-enhanced Raman spectroscopic study of DNA and 6-mercapto-1-hexanol interactions using large area mapping
Publication: Research - peer-review › Journal article – Annual report year: 2016

Synthesis and characterization of UV photocrosslinkable hydrogels with poly(N-vinyl-2-pyrrolidone): Determination of the network mesh size distribution
Publication: Research - peer-review › Journal article – Annual report year: 2016

Thermal properties of Fiber ropes
Bossolini, E., Nielsen, O. W., Oland, E., Sørensen, M. P. & Veje, C. 2016
Publication: Research - peer-review › Paper – Annual report year: 2017

Triple co-culture cell model as an in vitro model for oral particulate vaccine systems
Publication: Research - peer-review › Poster – Annual report year: 2016

Triple co-culture cell model as an in vitro model for oral particulate vaccine systems
Publication: Research - peer-review › Poster – Annual report year: 2016
Wafer-Scale Nanopillars Derived from Block Copolymer Lithography for Surface-Enhanced Raman Spectroscopy
Publication: Research - peer-review › Journal article – Annual report year: 2016

Fabrication of Ni stamp with high aspect ratio, two-leveled, cylindrical microstructures using dry etching and electroplating: Paper
Petersen, R. S., Keller, S. S., Hansen, O. & Boisen, A. 2015 In: Journal of Micromechanics and Microengineering. 25, 5, 12 p., 055021
Publication: Research - peer-review › Journal article – Annual report year: 2015

Hot embossing and mechanical punching of biodegradable microcontainers for oral drug delivery
Publication: Research - peer-review › Journal article – Annual report year: 2014

Hot punching of high-aspect-ratio 3D polymeric microstructures for drug delivery
Publication: Research - peer-review › Journal article – Annual report year: 2015

Hydrodynamics studies of cyclic voltammetry for electrochemical micro biosensors
Publication: Research - peer-review › Journal article – Annual report year: 2015

Microcantilever sensors for fast analysis of enzymatic degradation of poly (D, L-lactide)
Publication: Research - peer-review › Journal article – Annual report year: 2015

Microcontainers as an oral drug delivery system
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015

Micromechanical Fast Quasi-Static Detection of α and β Relaxations with Nanograms of Polymer
Publication: Research - peer-review › Journal article – Annual report year: 2015

pH-triggered drug release from biodegradable microwells for oral drug delivery
Publication: Research - peer-review › Journal article – Annual report year: 2015

Simulating cyclic voltammetry under advection for electrochemical cantilevers
Publication: Research - peer-review › Journal article – Annual report year: 2015

Stabilisation of amorphous furosemide increases the oral drug bioavailability in rats
Publication: Research - peer-review › Journal article – Annual report year: 2015
Projects:

**Biological Sample Preparation for Electron Microscopy**
Mateiu, R. V., Schneider, C., von Halling Laier, C., Ullah, S., Andersen, A. J. & Garcia Moreno, P. J.
16/11/2015 → 20/11/2015

Activities:

**An automated flow-injection enzyme-linked immunosorbent assay for the detection of Zearalenone**
Jongjit Jantra (Other), Zor, K. (Other), Martin Hedström (Other), Bo Mattiasson (Other)
7 Feb 2018 → 9 Feb 2018
Activity: Talks and presentations › Conference presentations

**Polarization noise study in all-normal dispersion fiber supercontinuum generation**
Bravo Gonzalo, I. (Speaker), Engelsholm, R. D. (Other), Mieritz, A. F. (Other), Sørensen, M. P. (Other), Bang, O. (Other)
29 Jan 2018
Activity: Talks and presentations › Conference presentations

**26th International Meshing Roundtable**
Jensen, K. E. (Organizer)
21 Sep 2017
Activity: Attending an event › Participating in or organising a conference

**A nanofiltration technique for analyte extraction from complex matrix and surface enhanced Raman spectroscopy based sensing**
Durucan, O. (Guest lecturer), Rindzevicius, T. (Other), Schmidt, M. S. (Other), Ilchenko, O. (Other), Boisen, A. (Other)
20 Sep 2017
Activity: Talks and presentations › Conference presentations

**1st Summer School on Complex Fluid-Flows in Microfluidics**
Jensen, K. E. (Speaker)
14 Jul 2017
Activity: Talks and presentations › Guest lectures, external teaching and course activities at other universities

**Structural aspects of hydrates – insight into phase transformations using nanomechanical sensors**
Peter Ouma Okeyo (Guest lecturer), Larsen, P. E. (Guest lecturer), Ilchenko, O. (Guest lecturer), Rindzevicius, T. (Guest lecturer), Roman Slipets (Guest lecturer), Boisen, A. (Guest lecturer), Thomas Rades (Guest lecturer), Jukka Rantanen (Guest lecturer)
28 Jun 2017 → 30 Jun 2017
Activity: Talks and presentations › Conference presentations

**Integration of Nanopillar SERS Substrates in a Microfluidic Platform for Analyte Separation and Quantitative Sensing**
Durucan, O. (Guest lecturer), Morelli, L. (Guest lecturer), Wu, K. (Guest lecturer), Viehric, M. (Guest lecturer), Ilchenko, O. (Guest lecturer), Zor, K. (Guest lecturer), Matteucci, M. (Guest lecturer), Alström, T. S. (Guest lecturer), Rindzevicius, T. (Guest lecturer), Schmidt, M. S. (Guest lecturer), Boisen, A. (Guest lecturer)
11 Jun 2017 → 17 Jun 2017
Activity: Talks and presentations › Conference presentations

**SERS combiner for high-speed and high-sensitive quantitative analysis**
Ilchenko, O. (Guest lecturer), Rindzevicius, T. (Guest lecturer), Durucan, O. (Guest lecturer), Schmidt, M. S. (Guest lecturer), Roman Slipets (Other), Morelli, L. (Guest lecturer), Boisen, A. (Guest lecturer)
11 Jun 2017 → 17 Jun 2017
Activity: Talks and presentations › Conference presentations
SERS combiner for high-speed and high-sensitive quantitative analysis
Ilchenko, O. (Guest lecturer), Rindzevicius, T. (Guest lecturer), Schmidt, M. S. (Guest lecturer), Roman Slipets (Guest lecturer), Durucan, O. (Guest lecturer), Morelli, L. (Guest lecturer), Boisen, A. (Guest lecturer)
11 Jun 2017 → 17 Jun 2017
Activity: Talks and presentations › Conference presentations

Solving 2D/3D Heat Conduction Problems by Combining Topology Optimization and Anisotropic Mesh Adaptation
Jensen, K. E. (Guest lecturer)
8 Jun 2017
Activity: Talks and presentations › Conference presentations

Non-Invasive Delivery of Macromolecules Conference
Mazzoni, C. (Guest lecturer)
23 Feb 2017
Activity: Talks and presentations › Conference presentations

Effects on cells on differentiation.
Dufva, M. (Lecturer)
11 Nov 2016
Activity: Talks and presentations › Conference presentations

11th Central European Symposium on Pharmaceutical Technology
Tentor, F. (Speaker)
23 Sep 2016 → 24 Sep 2016
Activity: Talks and presentations › Conference presentations

Central European Symposium on Pharmaceutical Technology
Mazzoni, C. (Speaker)
23 Sep 2016
Activity: Talks and presentations › Conference presentations

Modelling and experiments in drug delivery systems
Jensen, K. E. (Speaker)
20 Jun 2016 → 22 Jun 2016
Activity: Talks and presentations › Conference presentations

Biosensors 2016
Sanger, K. (Participant)
25 May 2016 → 27 May 2016
Activity: Attending an event › Participating in or organising a conference

11th Workshop on Biosensors and Bioanalytical Microtechniques in Environmental, Food and Clinical Analysis
Sanger, K. (Participant)
26 Sep 2015 → 30 Sep 2015
Activity: Attending an event › Participating in or organising a conference

41st International conference on Micro and Nano Engineering
Sanger, K. (Participant)
21 Sep 2015 → 24 Sep 2015
Activity: Attending an event › Participating in or organising a conference

22nd Nordic Rheology Conference
Jensen, K. E. (Participant)
12 Jun 2013
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.