Spatio-temporal pattern formation in predator-prey systems with fitness taxis
Heilmann, I. T., Thygesen, U. H. & Sørensen, M. P. 1 May 2018 In : Ecological Complexity. 34, p. 44-57
Publication: Research - peer-review › Journal article – Annual report year: 2018

A General Microscopic Traffic Model Yielding Dissipative Shocks
Publication: Research - peer-review › Article in proceedings – Annual report year: 2018

Cellular effects and delivery propensity of penetratin is influenced by conjugation to parathyroid hormone fragment 1-34 in synergy with pH
Kristensen, M., Nielsen, L. H., Zor, K., Boisen, A., Christensen, M. V., Berthelsen, J. & Mørck Nielsen, H. 2018 In : Bioconjugate Chemistry. 29, 2, p. 371-381
Publication: Research - peer-review › Journal article – Annual report year: 2018

Drug loaded biodegradable polymer microneedles fabricated by hot embossing
Publication: Research - peer-review › Journal article – Annual report year: 2018

Efficiency enhancement of InGaN amber MQWs using nanopillar structures
Publication: Research - peer-review › Journal article – Annual report year: 2018

Gold Nanoparticles Sliding on Recyclable Nanohoodoos as SERS Substrates – Bridging the Gap between Low Cost and Excellent Performance
Wu, K., Li, T., Schmidt, M. S., Rindzevicius, T., Ndoni, S. & Boisen, A. 2018
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Gold Nanoparticles Sliding on Recyclable Nanohoodoos-Engineered for Surface-Enhanced Raman Spectroscopy
Publication: Research - peer-review › Journal article – Annual report year: 2018

InGaN/GaN ultraviolet LED with a graphene/AZO transparent current spreading layer
Publication: Research - peer-review › Journal article – Annual report year: 2018

Injection molded lab-on-a-disc platform for screening of genetically modified E. coli using liquid-liquid extraction and surface enhanced Raman scattering
Publication: Research - peer-review › Journal article – Annual report year: 2018
Laser ablation and injection moulding as techniques for producing micro channels compatible with Small Angle X-Ray Scattering
Publication: Research - peer-review › Journal article – Annual report year: 2018

Optoelectric scaffold for photo-responsive biological components.
Emnéus, J., Bunea, A-I., Keller, S. S., Kristensen, A. & Heiskanen, A. 2018
Publication: Research › Patent – 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

Temperature Modulated Nanomechanical Thermal Analysis
Publication: Research - peer-review › Journal article – Annual report year: 2018

Using microcantilever sensors to measure poly(lactic-co-glycolic acid) plasticization by moisture uptake
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 p-coumaric acid from cell supernatant using surface enhanced Raman scattering
Publication: Research - peer-review › Conference abstract in journal – 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 and characterization of Au dimer antennas on glass pillars with enhanced plasmonic response
Publication: Research - peer-review › Journal article – Annual report year: 2017

Fabrication of completely free-standing pyrolytic carbon string resonator
Publication: Research - peer-review › Poster – 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

From concept to in vivo testing: Microcontainers for oral drug delivery
Publication: Research - peer-review › Journal article – 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 › Journal article – Annual report year: 2016

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

Nanomechanical Infrared Spectroscopy with Vibrating Filters for Pharmaceutical Analysis
Publication: Research - peer-review › Journal article – Annual report year: 2017

Nanopillar Filters for Surface-Enhanced Raman Spectroscopy
Durucan, O., Rindzевичius, T., Schmidt, M. S., Matteucci, M. & Boisen, A. 2017 In : ACS Sensors. 2, 10, p. 1400-1404
Publication: Research - peer-review › Letter – Annual report year: 2017

New Evidence for the Mechanism of Action of a Type-2 Diabetes Drug Using a Magnetic Bead-Based Automated Biosensing Platform
Publication: Research - peer-review › Journal article – Annual report year: 2017

Numerical Optimization in Microfluidics
Publication: Research - peer-review › Book chapter – Annual report year: 2017

Optimizing silver-capped silicon nanopillars to simultaneously realize macroscopic, practical-level SERS signal reproducibility and high enhancement at low costs
Publication: Research - peer-review › Journal article – 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

Quantification of a bacterial secondary metabolite by SERS combined with SLM extraction for bioprocess monitoring
Quantitative Detection of Trace Level Cloxacillin in Food Samples Using Magnetic Molecularly Imprinted Polymer Extraction and Surface-Enhanced Raman Spectroscopy Nanopillars

SERS detection of the biomarker hydrogen cyanide from Pseudomonas aeruginosa cultures isolated from cystic fibrosis patients

SERS spectroscopy for detection of hydrogen cyanide in breath from children colonised with P. aeruginosa

Surface Enhanced Raman Scattering for Quantification of p-Coumaric Acid Produced by Escherichia coli

A substrate and a method of using it

Blu-ray based optomagnetic aptasensor for detection of small molecules

Carbon nanopillars for enhanced stem cell differentiation and dopamine detection

Click chemistry based biomolecular conjugation monitoring using surface-enhanced Raman spectroscopy mapping

Detection methods for centrifugal microfluidic platforms
Burger, R., Amato, L. & Boisen, A. 2016 In : Biosensors and Bioelectronics. 76, p. 54-67

Detection of nerve gases using surface-enhanced Raman scattering substrates with high droplet adhesion

Experimentation and numerical modeling of cyclic voltammetry for electrochemical micro-sized sensors under the influence of electrolyte flow
Lab-on-a-disc agglutination assay for protein detection by optomagnetic readout and optical imaging using nano- and micro-sized magnetic beads

Lithography-Free Fabrication of Silica Nanocylinders with Suspended Gold Nanorings for LSPR-Based Sensing

Microcontainers - an oral drug delivery system for poorly soluble drugs

Microcontainers as an oral drug delivery system

Nanomechanical IR spectroscopy for fast analysis of liquid-dispersed engineered nanomaterials

Nanomechanical Pyrolytic Carbon Resonators: Novel Fabrication Method and Characterization of Mechanical Properties

Nonlinear optomechanical measurement of mechanical motion

Orientation of Pterin-6-Carboxylic Acid on Gold Capped Silicon Nanopillars Platforms: Surface Enhanced Raman Spectroscopy and Density Functional Theory Studies

Polymeric microcontainers improve oral bioavailability of furosemide

Supercritical impregnation of polymer matrices spatially confined in microcontainers for oral drug delivery: Effect of temperature, pressure and time

Surface-enhanced Raman spectroscopic study of DNA and 6-mercapto-1-hexanol interactions using large area mapping
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

Adsorption and Vibrational Study of Folic Acid on Gold Nanopillar Structures Using Surface-enhanced Raman Scattering Spectroscopy
Publication: Research - peer-review › Journal article – Annual report year: 2015

A Lab-on-a-disc platform for trapping of cells, monitoring of cell behaviour and evaluation of redox metabolism
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015

Centrifugal Microfluidic Platform Using Supported Liquid Membrane Extraction for Combined Sample Clean-Up and Enrichment of Trace Analytes
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Detection of bacterial metabolites through dynamic acquisition from surface enhanced raman spectroscopy substrates integrated in a centrifugal microfluidic platform
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Fabrication and loading of oral drug delivery microcontainers using hot punching
Publication: Research - peer-review › Article in proceedings – 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

Integrating Electrochemical Detection with Centrifugal Microfluidics for Real-Time and Fully Automated Sample Testing
Publication: Research - peer-review › Journal article – Annual report year: 2015

Integration of agglutination assay for protein detection in microfluidic disc using Blu-ray optical pickup unit and optical fluid scanning
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Mathematical model for biomolecular quantification using large-area surface-enhanced Raman spectroscopy mapping
Publication: Research - peer-review › Journal article – Annual report year: 2015

Mathematical model for biomolecular quantification using surface-enhanced Raman spectroscopy based signal intensity distributions
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

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

Parallelized system for biopolymer degradation studies through automated microresonator measurement in liquid flow
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016
ph-triggered drug release from biodegradable microwells for oral drug delivery
Publication: Research - peer-review › Journal article – Annual report year: 2015

Plasmon resonances of Ag capped Si nanopillars fabricated using mask-less lithography.
Wu, K., Rindzevicius, T., Schmidt, M. S., Mogensen, K. B., Xiao, S. & Boisen, A. 2015 In : Optics Express. 23, 10, p. 12965-12978
Publication: Research - peer-review › Journal article – Annual report year: 2015

Silver-capped silicon nanopillar platforms for adsorption studies of folic acid using surface enhanced Raman spectroscopy and density functional theory
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

The copper binding properties of metformin - QCM-D, XPS and nanobead agglomeration
Quan, X., Uddin, R., Heiskanen, A., Parmvi, M., Nilson, K., Donolato, M., Hansen, M. F., Rena, G. & Boisen, A. 2015 In : Chemical Communications. 51, 97, p. 17313-17316
Publication: Research - peer-review › Journal article – Annual report year: 2015

Towards quantitative SERS detection of hydrogen cyanide at ppb level for human breath analysis
Publication: Research - peer-review › Journal article – Annual report year: 2015

Wafer-Scale Leaning Silver Nanopillars for Molecular Detection at Ultra-Low Concentrations
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. & García Moreno, P. J.
16/11/2015 → 20/11/2015
Project

Activities:

Pyrolytic carbon for MEMS string resonators
Nguyen, Q. L. (Speaker), Larsen, P. E. (Other), Boisen, A. (Other), Keller, S. S. (Invited speaker)
11 Jun 2018
Activity: Talks and presentations › Conference presentations
3D printed system for testing intestinal drug transport  
Jepsen, M. L. (Other), Nielsen, L. H. (Other), Almdal, K. (Other), Boisen, A. (Other), Dufva, M. (Other)  
21 Mar 2018  
Activity: Talks and presentations › Conference presentations

Loading of poorly soluble drugs by supercritical CO2 impregnation into microcontainers for oral drug delivery  
Mazzoni, C. (Other), Antalaki, A. (Other), Jacobsen, R. D. (Other), Mortensen, J. (Other), Tentor, F. (Other), Slipets, R. (Other), Ilchenko, O. (Other), Keller, S. S. (Other), Nielsen, L. H. (Other), Boisen, A. (Other)  
19 Mar 2018 → 22 Mar 2018  
Activity: Talks and presentations › Conference presentations

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

Microcontainers for oral vaccine delivery  
Nielsen, L. H. (Guest lecturer)  
29 Jan 2018 → 31 Jan 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), Rindzевичius, T. (Other), Schmidt, M. S. (Other), Ilchenko, O. (Other), Boisen, A. (Other)  
20 Sep 2017  
Activity: Talks and presentations › Conference presentations

Photothermal probing of metallic nanoparticles on nanomechanical string resonators to study plasmonic heating effects  
Padmanabhan Rangacharya, V. (Speaker)  
20 Sep 2017  
Activity: Talks and presentations › Conference presentations

Microcontainers for oral vaccine delivery  
Nielsen, L. H. (Guest lecturer)
18 Sep 2017 → 22 Sep 2017
Activity: Talks and presentations › Conference presentations

**Electrospraying Chitosan Particles for Oral Vaccine Delivery**
Nielsen, L. H. (Guest lecturer)
16 Jul 2017 → 19 Jul 2017
Activity: Talks and presentations › Conference presentations

**Microcontainers as an Oral Drug Delivery System**
Nielsen, L. H. (Guest lecturer)
16 Jul 2017 → 19 Jul 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), Viehrig, M. (Guest lecturer), Ilchenko, O. (Guest lecturer), Zor, K. (Guest lecturer), Matteucci, M. (Guest lecturer), Alstrøm, 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
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

Polymer-derived carbon surfaces for enhancing stem cell differentiation
Bunea, A. (Speaker), Amato, L. (Other), Caviglia, C. (Other), Andrea Valsesia (Other), Paola Pellacani (Other), Casci Ceccacci, A. (Other), Keller, S. S. (Other), Larsen, N. B. (Other), Heiskanen, A. (Other), Emnéus, J. (Other)
31 May 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

Polymer-derived carbon surfaces for enhancing stem cell differentiation
Bunea, A. (Speaker), Amato, L. (Other), Andrea Valsesia (Other), Paola Pellacani (Other), Casci Ceccacci, A. (Other), Keller, S. S. (Other), Larsen, N. B. (Other), Heiskanen, A. (Other), Emnéus, J. (Other)
27 Nov 2015
Activity: Talks and presentations › Conference presentations

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.