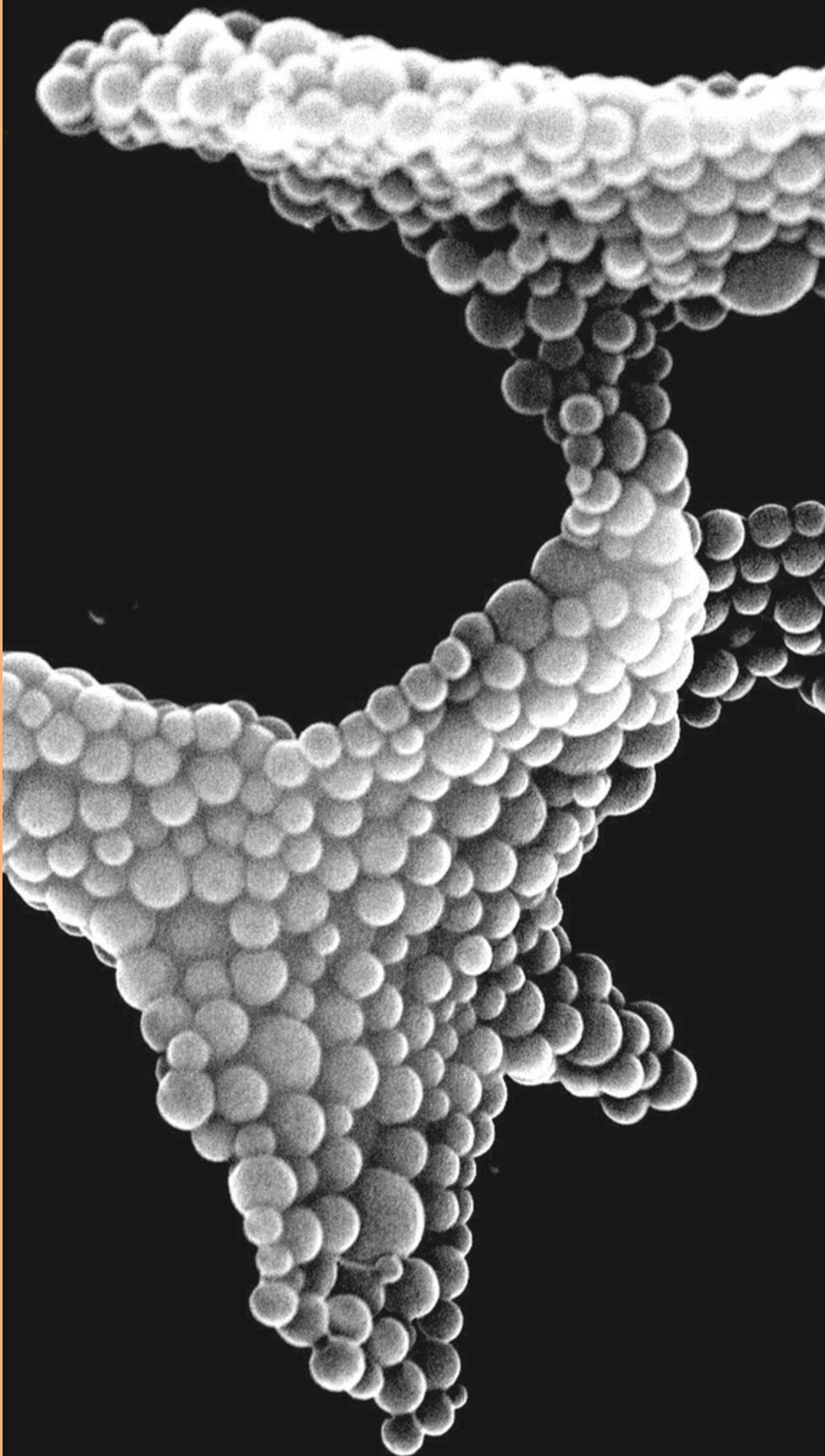


# Publications NTNU Nanolab 2013



**NTNU – Trondheim**  
Norwegian University of  
Science and Technology

## NTNU NanoLab Publications 2013

The publication list presents journal articles published by the academic community within nanoscience and nanotechnology at NTNU. NTNU NanoLab offers this summary as part of our mandate to coordinate and monitor the development in this field of science at the university. The authors come from five faculties and represent a multidisciplinary research community. The publication list consists of three sections covering the main research areas: "Nanoelectronics, Nanophotonics and Nanomagnetism", "Nanomaterials" and "Bionanotechnology / Nanomedicine". It represents a comprehensive overview of the broad activities in the field at NTNU.

In 2013 NTNU researchers published 199 journal papers. Of these papers, 30 are based on activity

in NTNU NanoLab's cleanroom. The number of publications in the field has grown from 158 in total and 15 based on work in our cleanroom 2012. We are very pleased with this development and expect a continued increase in the years to come, as the activities in the cleanroom develop.



Photo: Sarah Gastinger

Kay Gastinger  
Director  
NTNU NanoLab

### Nanoelectronics, Nanophotonics and Nanomagnetism

- Alidoust, M.; Halterman, K; Linder, J. *Singlet-triplet superconducting quantum magnetometer*. Physical Review B. Condensed Matter and Materials Physics 2013, 88, 075435.
- Alidoust, M.; Linder, J.  *$\pi$ -state and inverted Fraunhofer pattern in nonaligned Josephson junctions*. Physical Review B. Condensed Matter and Materials Physics 2013, 87, 060503.
- Bowden, S. R.; Gibson, U. *Fast current-driven switching of magnetic vortex states in permalloy microrings*. Applied Physics Letters 2013, 102, 132407.
- Dheeraj, D.L.; Munshi, A.M.; Christoffersen, O.M.; Kim, D.C.; Signorello G.; Riel, H.; vanHelvoort, A.T.J.; Weman, H.; Fimland, B.O. *Comparison of Be-doped GaAs nanowires grown by Au- and Ga-assisted molecular beam epitaxy*. Journal of Crystal Growth 2013, 378, 532.
- Enoksen, H.; Linder, J.; Sudbø, A. *Pressure-induced 0-n transitions and supercurrent crossover in antiferromagnetic weak links*. Physical Review B. Condensed Matter and Materials Physics 2013, 88, 214512.
- Enoksen, H.; Sudbø, A.; Linder, J. *Anomalous domain wall velocity and Walker breakdown in hybrid systems with anisotropic exchange*. Physical Review B. Condensed Matter and Materials Physics 2013, 87, 220401.
- Hals, K. M. D.; Brataas, A. *Phenomenology of current-induced spin-orbit torques*. Physical Review B. Condensed Matter and Materials Physics 2013, 88, 085423.
- Hals, K. M. D.; Brataas, A. *Spin-transfer torques in helimagnets*. Physical Review B. Condensed Matter and Materials Physics 2013, 87, 174409.
- Jiang, L.; Pekker, D.; Alicea, J.; Refael, G.; Oreg, Y.; Brataas, A.; von Oppen, F. *Magneto-Josephson effects in junctions with Majorana bound states*. Physical Review B. Condensed Matter and Materials Physics 2013, 87, 075438.
- Kapelrud, A.; Brataas, A. *Spin Pumping and Enhanced Gilbert Damping in Thin Magnetic Insulator Films*. Physical Review Letters 2013, 111, 097602.
- Leirset, E.; Engan, H. E.; Aksnes, A. *Heterodyne interferometer for absolute amplitude vibration measurements with femtometer sensitivity*. Optics Express 2013, 21, 19900.
- Lim, C. G.; Weman, H. *Numerical Analysis and Device Optimization of Radial p-n Junction GaAs/AlGaAs Core-Shell Nanowire Solar Cells*. IEEE Xplore 2013, 11-12.
- Linder, J. *Chirality-sensitive domain wall motion in spin-orbit coupled ferromagnets*. Physical Review B. Condensed Matter and Materials Physics 2013, 87, 054434.
- Linder, J.; Alidoust, M. *Asymmetric ferromagnetic resonance, universal Walker breakdown, and counterflow domain wall motion in the presence of multiple spin-orbit torques*. Physical Review B. Condensed Matter and Materials Physics 2013, 88, 064420.
- Leuenberger, D.; Yanagisawa, H.; Roth, S.; Dil, J.H.; Wells, J.; Hofmann, P.; Osterwalder, J.; Hengsberger, M. *Excitation of Coherent Phonons in the One-Dimensional Bi(114) Surface*. Physical Review Letters 2013, 110, 136806.
- Malshukov, A.G.; Skarsvåg, H.; Brataas, A. *Nonlinear magneto-optical and magnetoelectric phenomena in topological insulator heterostructures*. Physical Review B. Condensed Matter and Materials Physics 2013, 88, 245122.
- Mazzola, F.; Wells, J. W.; Yakimova, R.; Ulstrup, S.; Miwa, J.; Balog, R.; Bianchi, M.; Leandersson, M.; Adell, J.; Hofmann, P.; Balasubramanian, T. *Kinks in the  $\sigma$  Band of Graphene Induced by Electron-Phonon Coupling*. Physical Review Letters 2013, 111, 216806.

- Miwa, J. A.; Hofmann, P.; Simmons, M. Y.; Wells, J. *Direct Measurement of the Band Structure of a Buried Two-Dimensional Electron Gas*. Physical Review Letters 2013, 110, 136801.
- Perkins, E.; Barreto, L.; Wells, J.; Hofmann, P. *Surface-sensitive conductivity measurement using a micro multi-point probe approach*. Review of Scientific Instruments 2013, 84, 033901.
- Takamura, Y.; Folven, E.; Shu, J. B. R.; Lukes, K. R.; Li, B.; Scholl, A.; Young, A. T.; Retterer, S. T.; Tybell, T.; Grepstad, J. *Spin-Flop Coupling and Exchange Bias in Embedded Complex Oxide Micromagnets*. Physical Review Letters 2013, 111, 107201.
- Todorovic, J.; Kauko, H.; Ahtapodov, L.; Anthonyasamy, F. M.; Olk, P.; Dasa Lakshmi Narayana, D.; Fimland, B-O.; Weman, H.; Van Helvoort, A. *The effects of Sb concentration variation on the optical properties of GaAsSb/GaAs heterostructured nanowires***. Semiconductor Science and Technology 2013, 28, 115004.
- Tveten, E. G.; Qaumzadeh, A. J.; Tretiakov, O. A.; Brataas, A. *Staggered Dynamics in Antiferromagnets by Collective Coordinates*. Physical Review Letters 2013, 110, 127208.
- Viani, L.; Risko, C.; Toney, M. F.; Breiby, D. W.; Bredas, J.-L. *Substrate-Induced Variations of Molecular Packing, Dynamics, and Intermolecular Electronic Couplings in Pentacene Monolayers on the Amorphous Silica Dielectric*. ACS Nano 2013, 8, 690.
- Warnicke, P.; Knut, R.; Wahlström, E.; Karis, O.; Bailey, W. E.; Arena, D. A. *Exploring the accessible frequency range of phase-resolved ferromagnetic resonance detected with x-rays*. Journal of Applied Physics 2013, 113, 033904.
- Weigand, C. C.; Crisp, R.; Ladam, C.; Furtak, T.; Collins, R.; Grepstad, J.; Weman, H.** *Electrical, optical and structural properties of Al-doped ZnO thin films grown on GaAs(111)B substrates by pulsed laser deposition*. Thin Solid Films 2013, 545, 124.

## Nanomaterials

- Aas, L. M. S.; Kildemo, M.; Cohen, Y.; Søndergård, E. *Determination of small tilt angles of short GaSb nanopillars using UV-visible Mueller matrix ellipsometry*. Thin Solid Films 2013, 541, 97.
- Ahmad, J.; Deshmukh, K.; Hagg, M-B. *Influence of TiO<sub>2</sub> on the Chemical, Mechanical, and Gas Separation Properties of Polyvinyl Alcohol-Titanium Dioxide (PVA-TiO<sub>2</sub>) Nanocomposite Membranes***. IJPAC. International journal of polymer analysis and characterization 2013, 18, 287.
- Ahmad, J.; Hagg, M-B. *Development of matrimid/zeolite 4A mixed matrix membranes using low boiling point solvent*. Separation and Purification Technology 2013, 115, 190.
- Ahmad, J.; Hagg, M-B. *Effect of zeolite preheat treatment and membrane post heat treatment on the performance of polyvinyl acetate/zeolite 4A mixed matrix membrane*. Separation and Purification Technology 2013, 115, 163.
- Ahmad, J.; Hagg, M-B. *Polyvinyl acetate/titanium dioxide nanocomposite membranes for gas separation***. Journal of Membrane Science 2013, 445, 200.
- Ahmad, J.; Hagg, M-B. *Preparation and characterization of polyvinyl acetate/zeolite 4A mixed matrix membrane for gas separation*. Journal of Membrane Science 2013, 427, 73.
- Amft, M.; Walle, L. E.; Ragazzon, D.; Borg, A.; Uvdal, P.; Skorodumova, N.; Sandell, A. *A Molecular Mechanism for the Water-Hydroxyl Balance during Wetting of TiO<sub>2</sub>*. The Journal of Physical Chemistry C 2013, 117, 17078.
- Armada Nieto, S.; Schmid, R.; Equey, S.; Fagoaga, I.; Espallargas, N. *Liquid-Solid Self-Lubricated Coatings*. Journal of thermal spray technology 2013, 22, 10.
- Arivazhagan, V.; Parvathi, M.; Rajesh, S.; Sæterli, R.; Holmestad, R. *Quantum confinement in two dimensional layers of PbSe/ZnSe multiple quantum well structures*. Applied Physics Letters 2013, 102, 242110.
- Aschauer, U.; Pfenniger, R.; Selbach, S. M.; Grande, T.; Spaldin, N. A. *Strain-controlled oxygen vacancy formation and ordering in CaMnO<sub>3</sub>*. Physical Review B. Condensed Matter and Materials Physics 2013, 88, 054111.
- Balci, M.H.; Sæterli, R.; Maria, J.; Lindgren, M.; Holmestad, R.; Grande, T.; Einarsrud, M-A. *Solution based synthesis of simple fcc Si nanocrystals under ambient conditions*. Dalton Transactions 2013, 42, 2700.
- Bayati, S.; Pamies, R. F. P.; Volden, S.; Zhu, K.; Kjøniksens, A-L.; Glomm, W.; Nyström, B. *Influence of poly(ethylene glycol) block length on the adsorption of thermoresponsive copolymers onto gold surfaces*. Journal of Materials Science 2013, 48, 7055.
- Bentien, A.; Okada, T.; Kjelstrup, S. *Evaluation of Nanoporous Polymer Membranes for Electrokinetic Energy Conversion in Power Applications*. The Journal of Physical Chemistry C 2013, 117, 1582.
- Bjørge, R.; Holmestad, R. *Precipitation in an Al-Mg-Si-Ge-Cu Alloy*. Imaging and microscopy 2013, 4, 39.
- Blomberg, S.; Gustafson, J.; Martin, N.; Messing, M.; Deppert, K.; Liu, Z.; Chang, R.; Fernandes, V. R. P.; Borg, A.; Grönbeck, H.; Lundgren, E. *Generation and oxidation of aerosol deposited PdAg nanoparticles*. Surface Science 2013, 616, 186.
- Blomberg, S.; Hoffmann, M. J.; Gustafson, J.; Martin, N.; Fernandes, V. R. P.; Borg, A.; Liu, Z.; Chang, R.; Matera, S.; Reuter, K.; Lundgren, E. *In situ X-ray Photoelectron Spectroscopy of Model Catalysts: At the Edge of the Gap*. Physical Review Letters 2013, 110, 117601.
- Boschker, J. E.; Monsen, Å. F.; Nord, M. K.; Mathieu, R.; Grepstad, J.; Holmestad, R.; Wahlström, E.; Tybell, T. *In-plane structural order of domain engineered La<sub>0.7</sub>Sr<sub>0.3</sub>MnO<sub>3</sub> thin films*. Philosophical Magazine 2013, 93, 1549.
- Bruhn, T.; Fimland, B-O.; Esser, N.; Vogt, P. *STM analysis of defects at the GaAs(001)-c(4x4) surface*. Surface Science 2013, 617, 162.
- Bubnova, O.; Khan, Z. U.; Wang, H.; Braun, S.; Evans, D.; Fabretto, M.; Hojati-Talemi, P.; Dagnelund, D.; Arlin, J-B.; Geerts, Y. H.; Desbief, S.; Breiby, D. W.; Andreasen, J. Wenzel; Lazzaroni, R.; Chen, W. M.; Zozoulenko, I.; Fahman, M.; Murphy, P.; Berggren, M.; Crispin, X. *Semi-metallic polymers*. Nature Materials 2013, 13, 190.
- Chen, X.; Grande, T. *Anisotropic Chemical Expansion of La<sub>1-x</sub>Sr<sub>x</sub>CoO<sub>3-δ</sub>*. Chemistry of Materials 2013, 25, 927.

- Cheng, H.; Zhu, Y-A.; Åstrand, P-O.; Chen, D.; Li, P.; Zhou, X-G. *Evolution of Pt Nanoparticles Supported on Fishbone-Type Carbon Nanofibers with Cone-Helix Structures: A Molecular Dynamics Study*. The Journal of Physical Chemistry C 2013, 117, 14261.
- Cheng, H.; Åstrand, P-O.; Chen, D.; Zhu, Y-A.; Zhou, X-G.; Li, P. *Adsorption of a single Pt atom on polyaromatic hydrocarbons from first-principle calculations*. Chemical Physics Letters 2013, 575, 76.
- Cochard, J.; Yonenaga, I.; M'hamdi, M.; Zhang, Z. *A novel constitutive model for semiconductors: The case of silicon*. Journal of the mechanics and physics of solids 2013, 61, 2402.
- Dasa Lakshmi Narayana, D.; Munshi, A. M.; Christoffersen, O. M.; Kim, D. C.; Signorello, G.; Riel, H.; Van Helvoort, A.; Weman, H.; Fimland, B-O.** *Comparison of Be-doped GaAs nanowires grown by Au- and Ga-assisted molecular beam epitaxy*. Journal of Crystal Growth 2013, 378, 532.
- Dasa Lakshmi Narayana, D.; Munshi, A. M.; Scheffler, M.; Van Helvoort, A.; Weman, H.; Fimland, B-O.** *Controlling crystal phases in GaAs nanowires grown by Au-assisted molecular beam epitaxy*. Nanotechnology 2013, 24, 015601.
- Darab, M.; Dahlstrøm, P. K.; Thomassen, M. S.; Seland, F.; Sunde, S. *Dynamic electrochemical impedance spectroscopy of Pt/C-based membrane-electrode assemblies subjected to cycling protocols*. Journal of Power Sources 2013, 242, 447.
- Duan, X.; Zhou, X.; Chen, D. *Structural manipulation of the catalysts for ammonia decomposition. I: Catalysis*. Royal Society of Chemistry 2013 ISBN 978-1-84973-578-0. s. 118-140.
- Ehlers, F. J. H.; Dumoulin, S.; Marthinsen, K.; Holmestad, R. *Interface energy determination for the fully coherent  $\beta''$  phase in Al-Mg-Si: making a case for a first principles based hybrid atomistic modelling scheme*. Modelling and Simulation in Materials Science and Engineering 2013, 21, 085018.
- Ehlers, F. J. H.; Holmestad, R. *Ab initio based interface modeling for fully coherent precipitates of arbitrary size in Al alloys*. Computational materials science 2013, 72, 146.
- Eiras, S. B.; Lødeng, R.; Bergem, H.; Stöcker, M. W.; Hannevold, L.; Blekkan, E. A. *Catalytic hydrodeoxygenation (HDO) of phenol over supported molybdenum carbide, nitride, phosphide and oxide catalysts*. Catalysis Today 2013, 223, 44.
- Enger, B. C.; Frøseth, V.; Yang, J.; Rytter, E.; Holmen, A. *SSITKA analysis of CO hydrogenation on Zn modified cobalt catalysts*. Journal of Catalysis 2013, 97,187.
- Esmaeili, M.; Fløystad, J. B.; Diaz, A.; Høydalsvik, K.; Guizar-Sicairos, M.; Andreassen, J. W.; Breiby, D. W. *Ptychographic X-ray Tomography of Silk Fiber Hydration*. Macromolecules 2013, 46, 434.
- Falch, T. L.; Fløystad, J. B.; Breiby, D. W.; Elster, A. C. *GPU-Accelerated Visualization of Scattered Point Data*. Access, IEEE 2013, 1, 564.
- Fufa, S. M.; Jelle, B. P.; Hovde, P. J. *Durability, Reaction to Fire Properties and Environmental Impact of Treated and Untreated Wooden Claddings*. Wood Material Science & Engineering 2013, 8, 175.
- Fufa, S. M.; Jelle, B. P.; Hovde, P. J. *Weathering Performance of Spruce Coated with Water Based Acrylic Paint Modified with TiO<sub>2</sub> and Clay Nanoparticles*. Progress in organic coatings 2013, 76, 1543.
- Glavatskyy, K.; Pharaoh, J.; Kjelstrup, S. *Thermal phenomena associated with water transport across a fuel cell membrane: Soret and Dufour effects*. Journal of Membrane Science 2013, 431, 96.
- Gao, T.; Jelle, B. P. *Thermal Conductivity of TiO<sub>2</sub> Nanotubes*. The Journal of Physical Chemistry C 2013, 117, 1401.
- Gao, T.; Jelle, B. P. *Paraotwayite-Type  $\alpha$ -Ni(OH)<sub>2</sub> Nanowires: Structural, Optical and Electrochemical Properties*. The Journal of Physical Chemistry C 2013, 117, 17294.
- Gao, T.; Jelle, B. P. *Visible-Light-Driven Photochromism of Hexagonal Sodium Tungsten Bronze Nanorods*. The Journal of Physical Chemistry C 2013, 117, 13753.
- Gao, T.; Jelle, B. P.; Gustavsen, A. *Antireflection Properties of Monodisperse Hollow Silica Nanospheres*. Applied Physics A: Materials Science & Processing 2013, 110, 65.
- Gao, T.; Jelle, B. P.; Gustavsen, A. *Core-shell-typed Ag@SiO<sub>2</sub> Nanoparticles as Solar Selective Coating Materials*. Journal of nanoparticle research 2013, 15, 1370.
- Gao, T.; Jelle, B. P.; Sandberg, L. I. C.; Gustavsen, A. *Monodisperse Hollow Silica Nanospheres for Nano Insulation Materials: Synthesis, Characterization, and Life Cycle Assessment*. A C S Applied Materials and Interfaces 2013, 5, 761.
- Gao, T.; Norby, P. *Frame Stability of Tunnel-Structured Cryptomelane Nanofibers: The Role of Tunnel Cations*. European Journal of Inorganic Chemistry 2013, 28, 4948.
- Garskaite, E.; Flø, A. S.; Van Helvoort, A.; Kareiva, A.; Olsen, E. *Investigations of near IR photoluminescence properties in TiO<sub>2</sub>:Nd,Yb materials using hyperspectral imaging methods*. Journal of Luminescence 2013, 140, 57.
- Gawel, B.; Øye, G. *Hierarchical gamma-alumina monoliths with macro- and meso porosity prepared by using cross-linked dextran gel beads as the template*. Materials letters [General ed.] 2013, 95, 86.
- Ghadyani, Z.; Kildemo, M.; Aas, L. M. S.** *Anisotropic plasmonic Cu nanoparticles in sol-gel oxide nanopillars studied by spectroscopic Mueller matrix ellipsometry*. Optics Express 2013, 21, 30796.
- Ghalamestani, S. G.; Munshi, A. M.; Dasa Lakshmi Narayana, D.; Fimland, B-O.; Weman, H.; Dick, K. A.** *Self-catalyzed MBE grown GaAs/GaAs<sub>x</sub>Sb<sub>1-x</sub> core-shell nanowires in ZB and WZ crystal structures*. Nanotechnology 2013, 24, 405601.
- Granlund, H.; Fløystad, J. B.; Esmaeli, M.; Bakken, E. T.; Bech, M.; Vullum, P. E.; Andreassen, E.; Breiby, D. W. *Mapping structural gradients in isotactic polypropylene using scanning wide-angle X-ray scattering*. Polymer 2013, 54, 1867.
- Hallsteensen, I.; Boschker, J. E.; Nord, M. K.; Lee, S.; Rzchowski, M.; Vullum, P. E.; Grepstad, J.; Holmestad, R.; Eom, C-B.; Tybell, T. *Surface stability of epitaxial La<sub>0.7</sub>Sr<sub>0.3</sub>MnO<sub>3</sub> thin films on (111)-oriented SrTiO<sub>3</sub>*. Journal of Applied Physics 2013, 113, 183512.
- Hammer, N.; Mathisen, K.; Rønning, M. *CO Oxidation over Au/TiO<sub>2</sub>-Carbon Catalysts: The Effect of Thermal Treatment, Stability and TiO<sub>2</sub> Support Structure*. Topics in catalysis 2013, 56, 637.
- He, J.; Zhang, Z.; Kristiansen, H.; Redford, K.; Fonnum, G.; Modahl, G.** *Crosslinking effect on the deformation and fracture of monodisperse polystyrene-co-divinylbenzene particles*. eXPRESS Polymer Letters 2013, 7, 365.
- Hendraningrat, L.; Li, S.; Torsæter, O.** *A coreflood investigation of nanofluid enhanced oil recovery*. Journal of Petroleum Science and Engineering 2013, 111, 128.
- Holmen, A.; Venvik, H. J.; Myrstad, R.; Zhu, J.; Chen, D. *Monolithic, microchannel and carbon nanofibers/*

- carbon felt reactors for syngas conversion by Fischer-Tropsch synthesis.* *Catalysis Today* 2013, 216, 150.
- Hu, W.; Denys, R. V.; Nwakwo, C.; Holm, T.; Mæhlen, J. P.; Solberg, J. K.; Yartys, V. *Annealing effect on phase composition and electrochemical properties of the Co-free  $\text{La}_2\text{MgNi}_9$  anode for Ni-metal hydride batteries.* *Electrochimica Acta* 2013, 96, 27.
- Jelle, B. P. *Solar Radiation Glazing Factors for Window Panes, Glass Structures and Electrochromic Windows in Buildings - Measurement and Calculation.* *Solar Energy Materials and Solar Cells* 2013, 116, 291.
- Jelle, B. P. *The Challenge of Removing Snow Downfall on Photovoltaic Solar Cell Roofs in order to Maximize Solar Energy Efficiency – Research Opportunities for the Future.* *Energy and Buildings* 2013, 67, 334.
- Ji, J.; Duan, X.; Qian, G.; Li, P.; Zhou, X-G.; Chen, D.; Yuan, W. *Fe particles on the tops of carbon nanofibers immobilized on structured carbon microfibers for ammonia decomposition.* *Catalysis Today* 2013, 216, 254.
- Ji, J.; Duan, X.; Qian, G.; Zhou, X-G.; Chen, D.; Yuan, W-K. *In Situ Production of Ni Catalysts at the Tips of Carbon Nanofibers and Application in Catalytic Ammonia Decomposition.* *Industrial & Engineering Chemistry Research* 2013, 52, 1854.
- Jin, E.; He, J.; Zhang, K.; Zhang, Z.; Shi, G.; Zheng, Q. *Electron-irradiation-induced reinforcement of reduced graphene oxide papers.* *Acta Materialia* 2013, 61, 6466.
- Jozefczak, A.; Hornowski, T.; Rozynek, Z.; Skumiel, A.; Fossum, J. O. *Rheological Study of Dextran-Modified Magnetite Nanoparticle Water Suspension.* *International journal of thermophysics* 2013, 34, 609.
- Kauko, H.; Grieb, T.; Bjørge, R.; Schowalter, M.; Munshi, A. M.; Weman, H.; Rosenauer, A.; Van Helvoort, A. *Compositional characterization of GaAs/GaAsSb nanowires by quantitative HAADF-STEM.* *Micron* 2013, 44, 254.
- Kauko, H.; Zheng, C.L.; Zhu, Y.; Glanvill, S.; Dwyer, C.; Munshi, A. M.; Fimland, B-O.; Van Helvoort, A.; Etheridge, J. *Compositional analysis of GaAs/AlGaAs heterostructures using quantitative scanning transmission electron microscopy.* *Applied Physics Letters* 2013, 103, 232111.
- Kildemo, M. *Optical properties of biaxial nanopatterned gold plasmonic nanowired grid polarizer.* *Optics Express* 2013, 21, 30918.
- Kim, D. C.; Dasa Lakshmi Narayana, D.; Fimland, B-O.; Weman, H. *Polarization dependent photocurrent spectroscopy of single wurtzite GaAs/AlGaAs core-shell nanowires.* *Applied Physics Letters* 2013, 102, 142107.
- Kim, JH.; Marioara, C. D.; Holmestad, R.; Kobayashi, E.; Sato, T. *Effects of Cu and Ag additions on age-hardening behavior during multi-step aging in Al-Mg-Si alloys.* *Materials Science & Engineering: A* 2013, 560, 154.
- Kjelstrup, S. *On the transported entropy of ions (Replies to comments by Alan L. Rockwood in *Electrochimica Acta* 107C (2013) 686-0, and by Zheng Fang in *Electrochimica Acta* 107C (2013) 691-2).* *Electrochimica Acta* 2013, 107, 693.
- Kjelstrup, S.; Rubi, J. M.; Pagonabarraga, I.; Bedeaux, D. *Mesoscopic non-equilibrium thermodynamic analysis of molecular motors.* *Physical Chemistry, Chemical Physics - PCCP* 2013, 15, 19405.
- Kjelstrup, S.; Vie, P. J. S.; Akyalcin, L.; Zefaniya, P.; Pharoah, J. G.; Burheim, O. S. *The Seebeck coefficient and the Peltier effect in a polymer electrolyte membrane cell with two hydrogen electrodes.* *Electrochimica Acta* 2013, 99, 166.
- Krüger, P.; Schnell, S. K.; Bedeaux, D.; Kjelstrup, S.; Vlugt, T.; Simon, J.-M. *Kirkwood-Buff Integrals for Finite Volumes.* *Journal of Physical Chemistry Letters* 2013, 4, 235.
- Lervik, A.; Kjelstrup, S. *Describing transport across complex biological interfaces.* *The European Physical Journal Special Topics* 2013, 222, 143.
- Lifson, M.; Levey, C.; Gibson, U. *Diameter and location control of ZnO nanowires using electrodeposition and sodium citrate.* *Applied Physics A: Materials Science & Processing* 2013, 113, 243.
- Lillebø, A. H.; Håvik, S.; Blekkan, E. A.; Holmen, A. *Fischer-Tropsch Synthesis on SiC-Supported Cobalt Catalysts.* *Topics in catalysis* 2013, 56, 730.
- Lillebø, A. H.; Patanou, E.; Yang, J.; Blekkan, E. A.; Holmen, A. *The effect of alkali and alkaline earth elements on cobalt based Fischer-Tropsch catalysts.* *Catalysis Today* 2013, 215, 60.
- Liman, C.; Choi, S.; Breiby, D. W.; Cochran, J.; Toney, M. F.; Kramer, E.; Chabinyc, M. *Two-Dimensional GIWAXS Reveals a Transient Crystal Phase in Solution-Processed Thermally Converted Tetrabenzo porphyrin.* *Journal of Physical Chemistry B* 2013, 117, 14557.
- Liu, M.; Roven, H. J.; Murashkin, MY.; Valiev, R. Z.; Kilmametov, A.; Zhang, Z; Yu, Y. *Structure and mechanical properties of nanostructured Al-Mg alloys processed by severe plastic deformation.* *Journal of Materials Science* 2013, 48, 4681.
- Liu, X.; Schnell, Sondre K.; Simon, J.-M.; Krüger, P.; Bedeaux, D.; Kjelstrup, S.; Bardow, A.; Vlugt, T. *Diffusion Coefficients from Molecular Dynamics Simulations in Binary and Ternary Mixtures.* *International journal of thermophysics* 2013, 34, 1169.
- Lou, F.; Zhou, H.; Huang, F.; Vullum-Bruer, F.; Tran, T. D.; Chen, D. *Facile synthesis of manganese oxide/aligned carbon nanotubes over aluminium foil as 3D binder free cathodes for lithium ion batteries.* *Journal of Materials Chemistry* 2013, 1, 3757.
- Lou, F.; Zhou, H.; Vullum-Bruer, F.; Tran, T. D.; Chen, D. *Synthesis of carbon nanofibers@ $\text{MnO}_2$  3D structures over copper foil as binder free anodes for lithium ion batteries.* *Journal of Energy Chemistry* 2013, 22, 78.
- MacLaren, I.; Wang, LQ.; Schaffer, B.; Ramasse, Q.; Craven, A. J.; Selbach, S. M.; Spaldin, N. A.; Miao, S.; Kalantari, K.; Reaney, I. M. *Novel Nanorod Precipitate Formation in Neodymium and Titanium Codoped Bismuth Ferrite.* *Advanced Functional Materials* 2013, 23, 683.
- Martinsen, F. A.; Nordstrand, E. F.; Gibson, U. *Purification of melt-spun metallurgical grade silicon micro-flakes through a multi-step segregation procedure.* *Journal of Crystal Growth* 2013, 363, 33.
- Mauroy, H.; Plivelic, T. S.; Hansen, E. L.; Fossum, J. O.; Helgesen, G.; Knudsen, K. *The Effect of Clay Surface Charge on the Emerging Properties of Polystyrene-organoclay Nanocomposites.* *The Journal of Physical Chemistry C* 2013, 117, 19656.
- Mauroy, H.; Rozynek, Z.; Plivelic, T. S.; Fossum, J. O.; Helgesen, G.; Knudsen, K. *Oxygen-Controlled Phase Segregation in Poly(*N*-isopropylacrylamide)/Laponite Nanocomposite Hydrogels.* *Langmuir* 2013, 29, 371.
- Midtdal, K.; Jelle, B. P. *Self-Cleaning Glazing Products: A State-of-the-Art Review and Future Research Pathways.* *Solar Energy Materials and Solar Cells* 2013, 109, 126.

- Mihai, O.; Raaen, S.; Chen, D.; Holmen, A. *Preparation of stable cubic LaFeO<sub>3</sub> nanoparticles using carbon nanotubes as templates*. Journal of Materials Chemistry 2013, 24, 7006.
- Munshi, A. M.; Weman, H. *Advances in semiconductor nanowire growth on graphene*. Physica Status Solidi. Rapid Research Letters 2013, 7, 713.
- Mubarok, F.; Armada Nieto, S.; Fagoaga, I.; Es-pallargas, N.** *Thermally Sprayed SiC Coatings for Offshore Wind Turbine Bearing Applications*. Journal of thermal spray technology 2013, 22, 1303.
- Muggerud, A. M. F.; Mørtsell, E. A.; Li, Y.; Holmestad, R. *Dispersoid strengthening in AA3xxx alloys with varying Mn and Si content during annealing at low temperatures*. Materials Science & Engineering: A 2013, 567, 21.
- Müller, C.; Esmaeili, M.; Riekel, C.; Breiby, D. W.; Inganäs, O. *Micro X-ray diffraction mapping of a fluorene copolymer fibre*. Polymer 2013, 54, 805.
- Munshi, A. M.; Dasa Lakshmi Narayana, D.; Todorovic, J.; Van Helvoort, A.; Weman, H.; Fimland, B-O. *Crystal phase engineering in self-catalyzed GaAs and GaAs/GaAsSb nanowires grown on Si(111)*. Journal of Crystal Growth 2013, 372, 163.
- Muthuswamy, N.; de la Fuente, J. L. G.; Tran, D. T.; Walmsley, J.; Tsypkin, M.; Raaen, S.; Sunde, S.; Rønning, M.; Chen, D. *Ru@Pt core-shell nanoparticles for methanol fuel cell catalyst: Control and effects of shell composition*. International journal of hydrogen energy 2013, 38, 16631.
- Muthuswamy, N.; Gomez, J. L. de la F.; Ochal, P.; Giri, R.; Raaen, S.; Sunde, S.; Rønning, M.; Chen, D. *Towards a highly-efficient fuel-cell catalyst: optimization of Pt particle size, supports and surface-oxygen group concentration*. Physical Chemistry, Chemical Physics - PCCP 2013, 15, 3803.
- Nordstrand, E. F.; Dibbs, A.; Eraker, A. J.; Gibson, U.** *Alkaline oxide interface modifiers for silicon fiber production*. Optical Materials Express 2013, 3, 651.
- Nwakwuo, C.; Holm, T.; Denys, R. V.; Hu, W.; Mæhlen, J. P.; Solberg, J. K.; Yartys, V. *Effect of magnesium content and quenching rate on the phase structure and composition of rapidly solidified La<sub>2</sub>MgNi<sub>3</sub> metal hydride battery electrode alloy*. Journal of Alloys and Compounds 2013, 555, 201.
- Patanou, E.; Tveten, E. Z.; Chen, D.; Holmen, A.; Blekkan, E. A. *Microcalorimetric studies of H<sub>2</sub> and CO on Co/γ-Al<sub>2</sub>O<sub>3</sub> catalysts for Fischer-Tropsch synthesis*. Catalysis Today 2013, 214, 19.
- Tsakouris, N.; Dehghan-Niri, R.; Johnsen, R. E.; Voronov, A.; Van Beek, W.; Walmsley, J.; Borg, Ø.; Rytter, E.; Chen, D.; Rønning, M.; Holmen, A. *A combined in situ XAS-XRPD-Raman study in Fischer-Tropsch synthesis over a carbon supported Co catalyst*. Catalysis Today 2013, 205, 86.
- Pitt, M.; Vullum, P. E.; Sørby, M. H.; Emerich, H.; Paskevicius, M.; Buckley, C. E.; Gray, E. MacA.; Walmsley, J.; Holmestad, R.; Hauback, B. *Crystalline Al<sub>1-x</sub>Ti<sub>x</sub> phases in the hydrogen cycled NaAlH<sub>4</sub>+0.02TiCl<sub>3</sub> system*. Philosophical Magazine 2013, 93, 1080.
- Polley, C.; Clarke, W.; Miwa, J.; Scappucci, G.; Wells, J.; Jaeger, D.; Bischof, M.; Reidy, R.; Gorman, B.; Simmons, M. *Exploring the Limits of N-Type Ultra-Shallow Junction Formation*. ACS Nano 2013, 7, 5499.
- Prot, V. E.; Sveinsson, H. M.; Gawel, K.; Gao, M.; Skallerud, B. H.; Stokke, B. T. *Swelling of a hemi-ellipsoidal ionic hydrogel for determination of material properties of deposited thin polymer films: an inverse finite element approach*. Soft Matter 2013, 9, 5815.
- Ragazzon, D.; Schaefer, A.; Farstad, M. H.; Walle, L. E.; Palmgren, P.; Borg, A.; Uvdal, P.; Sandell, A. *Chemical vapor deposition of ordered TiO<sub>x</sub> nanostructures on Au(111)*. Surface Science 2013, 617, 211.
- Rotan, M.; Rytter, E.; Einarsrud, M-A.; Grande, T. *Attrition resistant alumina based catalyst supports for Fisher-Tropsch synthesis*. Journal of the European Ceramic Society 2013, 33, 1.
- Rubi, J. M.; Bedeaux, D.; Kjelstrup, S.; Pagonabarraga, I. *Chemical Cycle Kinetics: Removing the Limitation of Linearity of a Non-equilibrium Thermodynamic Description*. International journal of thermophysics 2013, 34, 1214.
- Saito, T.; Muraishi, S.; Marioara, C. D.; Andersen, S. J.; Røyset, J.; Holmestad, R. *The Effects of Low Cu Additions and Predeformation on the Precipitation in a 6060 Al-Mg-Si Alloy*. Metallurgical and Materials Transactions. A 2013, 44A, 4124.
- Sandbakk, K. D.; Bentien, A.; Kjelstrup, S. *Thermoelectric effects in ion conducting membranes and perspectives for thermoelectric energy conversion*. Journal of Membrane Science 2013, 434, 10.
- Sandberg, L. I. C.; Gao, T.; Jelle, B. P.; Gustavsen, A.** *Synthesis of Hollow Silica Nanospheres by Sacrificial Polystyrene Templates for Thermal Insulation Applications*. Advances in Materials Science and Engineering 2013, Article ID 483651.
- Sandell, A.; Walle, L. E.; Blomquist, J.; Uvdal, P.; Borg, A. *Heterogeneous reaction between Li and anatase TiO<sub>2</sub> nanoparticles under ultra-high vacuum*. Physical Chemistry, Chemical Physics - PCCP 2013, 15, 12283.
- Schaefer, A.; Ragazzon, D.; Walle, L. E.; Farstad, M. H.; Wichmann, A.; Bäumer, M.; Borg, A.; Sandell, A. *Controlled modification of nanoporous gold: Chemical Vapor deposition of TiO<sub>2</sub> in ultrahigh vacuum*. Applied Surface Science 2013, 282, 439.
- Schnell, S. K.; Englebienne, P.; Simon, J-M.; Krüger, P.; Balaji, S. P.; Kjelstrup, S.; Bedeaux, D.; Bardow, A.; Vlugt, T. J. H. *How to apply the Kirkwood-Buff theory to individual species in salt solutions*. Chemical Physics Letters 2013, 582, 154.
- Schnell, S. K.; Wu, L.; Koekkoek, A. J. J.; Kjelstrup, S.; Hensen, E. J. M.; Vlugt, T. J. H. *Adsorption of Argon on MFI Nanosheets: Experiments and Simulations*. The Journal of Physical Chemistry C 2013, 117, 24503.
- Shearer, G. C.; Forslev, S.; Chavan, S. M.; Bordiga, S.; Mathisen, K.; Bjørgen, M.; Svelle, S.; Lillerud, K. P. *In situ infrared spectroscopic and gravimetric characterisation of the solvent removal and dehydroxylation of the metal organic frameworks UiO-66 and UiO-67*. Topics in catalysis 2013, 56, 770.
- Shu, J.; Dudenko, D.; Esmaeili, M.; Park, J. H.; Puniredd, S.; Chang, J. Y.; Breiby, D. W.; Pisula, W.; Hansen, M. R. *Coexistence of helical morphologies in columnar stacks of star-shaped discotic hydrazones*. Journal of the American Chemical Society 2013, 135, 11075.
- Sinha, S.; Hansen, A.; Bedeaux, D.; Kjelstrup, S. *Effective rheology of bubbles moving in a capillary tube*. Physical Review E. Statistical, Nonlinear, and Soft Matter Physics 2013, 87, 025001.
- Smalø, H. S.; Åstrand, P-O.; Mayer, A. *Combined nonmetallic electronegativity equalisation and point-dipole interaction model for the frequency-dependent polarisability*. Molecular Physics 2013, 111, 1470.

- Song, F.; Monsen, Å. F.; Li, Z.; Wells, J.; Wahlström, E. *The layer-by-layer stoichiometry of  $La_{0.7}Sr_{0.3}MnO_3/SrTiO_3$  thin films and interfaces.* Surface and Interface Analysis 2013, 45, 1144.
- Sunde, T. O. L.; Einarsrud, M-A.; Grande, T. *Solid state sintering of nano-crystalline indium tin oxide.* Journal of the European Ceramic Society 2013, 33, 565.
- Suwarno, M.; Solberg, J. K.; Mæhlen, J. P.; Denys, R. V.; Krogh, B.; Ochoa-Fernandez, E.; Børresen, B.; Ryter, E.; Gabis, I. E.; Yartys, V. *Non-isothermal kinetics and in situ SR XRD studies of hydrogen desorption from dihydrides of binary Ti-V alloys.* International journal of hydrogen energy 2013, 38, 14704.
- Teichmann, K.; Marioara, C. D.; Andersen, S. J.; Marthinsen, K. *TEM study of beta' precipitate interaction mechanisms with dislocations and beta' interfaces with the aluminium matrix in Al-Mg-Si alloys.* Materials Characterization 2013, , 75, 1.
- Teichmann, K.; Marioara, C. D.; Pedersen, K. O.; Marthinsen, K. *The effect of simultaneous deformation and annealing on the precipitation behaviour and mechanical properties of an Al-Mg-Si alloy.* Materials Science & Engineering: A 2013, 565, 228.
- Tollefson, T. A.; Larsson, A.; Taklo, M. M. V.; Neels, A.; Maeder, X.; Høydalsvik, K.; Breiby, D. W.; Aasmundtveit, K. E. *Au-Sn SLID bonding: A reliable HT interconnect and die attach technology.* Metallurgical and materials transactions B. Process metallurgy and materials processing science 2013, 44, 406.
- Trinh, T.; Kjelstrup, S.; Vlugt, T. J. H.; Bedeaux, D.; Hagg, M-B. *Selectivity and self diffusion of  $Co_2$  and  $H_2$  in a mixture on a graphite surface.* Frontiers in Chemistry 2013, 1, 38.
- Tsakoumis, N.; Dehghan-Niri, R.; Johnsen, R. E.; Voronov, A.; Van Beek, W.; Walmsley, J.; Borg, Ø.; Ryter, E.; Chen, D.; Rønning, M.; Holmen, A. *A combined in situ XAS-XRPD-Raman study in Fischer-Tropsch synthesis over a carbon supported Co catalyst.* Catalysis Today 2013, 205, 86.
- Tsyplkin, M.; Gomez, J. L.de la F.; Rodriguez, S. G.; Yu, Y.; Ochal, P.; Seland, F.; Safanova, O.; Muthuswamy, N.; Rønning, M.; Chen, D.; Sunde, S. *Effect of heat treatment on the electrocatalytic properties of nano-structured Ru cores with Pt shells.* Journal of Electroanalytical Chemistry 2013, 704, 57.
- Vatne, I. R.; Stukowski, A.; Thaulow, C.; Østby, E.; Marian, J. *Three-dimensional crack initiation mechanisms in bcc-Fe under loading modes I, II and III.* Materials Science & Engineering: A 2013, 560, 306.
- Vinogradov, N.; Simonov, K.; Zakharov, A. A.; Wells, J.; Generalov, A. V.; Vinogradov, A. S.; Mårtensson, N.; Preobrajenski, A. *Hole doping of graphene supported on Ir(111) by  $AlBr_3$ .* Applied Physics Letters 2013, 102, 061601.
- Weber, S.B.; Grande, T.; Scherer, G. W.; Einarsrud, M-A. *Crack Engineering in Thick Coatings Prepared by Spray Pyrolysis Deposition.* Journal of The American Ceramic Society 2013, 96, 420.
- Weber, S. B.; Lein, H. L.; Grande, T.; Einarsrud, M-A. *Influence of the precursor solution chemistry on the deposition of thick coatings by spray pyrolysis.* Surface & Coatings Technology 2013, 221, 53.
- Weber, S. B.; Lein, H. L.; Grande, T.; Einarsrud, M-A. *Lanthanum zirconate thermal barrier coatings deposited by spray pyrolysis.* Surface & Coatings Technology 2013, 227, 10.
- Wenner, S.; Marioara, C. D.; Andersen, S. J.; Holmestad, R. *How calcium prevents precipitation hardening in Al-Mg-Si alloys.* Materials Science & Engineering: A 2013, 575, 241.
- Wenner, S.; Nishimura, K.; Matsuda, K.; Matsuzaki, T.; Tomono, D.; Pratt, F. L.; Marioara, C. D.; Holmestad, R. *Muon kinetics in heat treated Al(-Mg)(-Si) alloys.* Acta Materialia 2013, 61, 6082.
- Wu, J.; He, J.; Odegard, G.; Nagao, S.; Zheng, Q.; Zhang, Z. *Giant Stretchability and Reversibility of Tightly Wound Helical Carbon Nanotubes.* Journal of the American Chemical Society 2013, 135, 13775.
- Wu, J.; He, J.; Odegard, G.; Zhang, Z. *Effect of chain architecture on the compression behavior of nanoscale polyethylene particles.* Nanoscale Research Letters 2013, 8, 322.
- Wu, J.; He, J.; Zhang, Z. *Fracture and negative Poisson's ratio of novel spanned-fullerenes nanotube networks under tension.* Computational materials science 2013, 80, 15.
- Wu, J.; Nagao, S.; He, J.; Zhang, Z. *Nanohinge-Induced Plasticity of Helical Carbon Nanotubes.* Small 2013, 9, 3561.
- Xiong, W.; Liu, Z.; Zhang, Z.; Zheng, Q-S. *Control of surface wettability via strain engineering.* Acta Mechanica Sinica 2013, 29., 543.
- Yang, J.; Qi, Y.; Zhu, J.; Zhu, Y-A.; Chen, D.; Holmen, A. *Reaction mechanism of CO activation and methane formation on Co Fischer-Tropsch catalyst: A combined DFT, transient, and steady-state kinetic modeling.* Journal of Catalysis 2013, 308, 37.
- Yu, X.; Raaen, S. *The influence of potassium doping on hydrogen adsorption on carbon nanocone material studied by thermal desorption and photoemission.* Applied Surface Science 2013, 270, 364.
- Zhao, J.; Nagao, S.; Odegard, G.; Zhang, Z.; Kristiansen, H.; He, J. *Size-dependent mechanical behavior of nanoscale polymer particles through coarse-grained molecular dynamics simulation.* Nanoscale Research Letters 2013, 8, 541.
- Zhao, J.; Wu, J.; Jiang, J.-W.; Lu, I.; Zhang, Z.; Rabczuk, T. *Thermal conductivity of carbon nanocoils.* Applied Physics Letters 2013, 103, 233511.
- Zhao, T.; Rønning, M.; Chen, D. *Preparation of nano-crystalline  $Na_2ZrO_3$  for high-temperature  $CO_2$  acceptors: chemistry and mechanism.* Journal of Energy Chemistry 2013, 22, 387.
- Zhou, H.; Einarsrud, M-A.; Vullum-Bruer, F. *High capacity nanostructured  $Li_2FeSiO_4/C$  with Fe hyperstoichiometry for Li-ion batteries.* Journal of Power Sources 2013, 235, 234.
- Zhou, H.; Einarsrud, M-A.; Vullum-Bruer, F. *In situ X-ray diffraction and electrochemical impedance spectroscopy of a nanoporous  $Li_2FeSiO_4/C$  cathode during the initial charge/discharge cycle of a Li-ion battery.* Journal of Power Sources 2013, 238, 478.
- Zhou, H.; Lou, F. L.; Vullum, P. E.; Einarsrud, M-A.; Chen, D.; Vullum-Bruer, F. *3D aligned-carbon-nanotubes@ $Li_2FeSiO_4$  arrays as high rate capability cathodes for Li-ion batteries.* Nanotechnology 2013, 24, 1.
- Zhu, J.; Holmen, A.; Chen, D. *Carbon Nanomaterials in Catalysis: Proton Affinity, Chemical and Electronic Properties, and their Catalytic Consequences.* ChemCatChem 2013, 5, 378.
- Zlotorowicz, A.; Seland, F.; Sunde, S. *Composite Thin Film Iridium-Niobium Oxide Electrocatalysts for the Oxygen Evolution Electrode.* ECS Transactions 2013, 50, 71.

# Bionanotechnology

- Afadzi, M.; Strand, S. P.; Nilssen, E. A.; Måsøy S. E.; Johansen T. F.; Hansen R.; Angelsen B.; Davies de L. *Mechanisms of the Ultrasound-mediated Intracellular Delivery of Liposomes and Dextrans*. IEEE Trans. Ultrasonics, Ferroelectrics, Frequency Control. 2013, 60, 21-22.
- Beckwith, K. M.; Sikorski, P. *Patterned cell arrays and patterned co-cultures on polydopamine-modified poly(vinyl alcohol) hydrogels*. Biofabrication 2013, 5, 045009.
- Cybulska, J.; Zdunek, A.; Psonka-Antonczyk, K. M.; Stokke, B. T. *The relation of apple texture with cell wall nanostructure studied using an atomic force microscope*. Carbohydrate Polymers 2013, 92, 128.
- Eggen, S.; Afadzi, M.; Nilssen, E. A.; Haugstad, S. B.; Angelsen, B. A.J.; Davies, C. de L. *Ultrasound improves the uptake and distribution of liposomal doxorubicin in prostate cancer xenografts*. Ultrasound in Medicine and Biology 2013, 39, 1255.
- Gao, M.; Toita, S.; Sawada, S-i; Akiyoshi, K.; Stokke, B. T. *Cyclodextrin triggered dimensional changes of polysaccharide nanogel integrated hydrogels at nanometer resolution*. Soft Matter 2013, 9, 5178.
- Hak, S.; Cebulla, J.; Huuse, E. M.; Davies, C. de L.; Mulder, W. J. M.; Larsson, H.; Haraldseth, O. *Periodicity in tumor vasculature targeting kinetics of ligandfunctionalized nanoparticles studied by dynamic contrast enhanced magnetic resonance imaging and intravital microscopy*. Angiogenesis 2013, 17, 93.
- Khong, T. T.; Aarstad, O. A.; Skjåk-Bræk, G.; Draget, K. I.; Vårum, K. M. *Gelling Concept Combining Chitosan and Alginate - Proof of Principle*. Biomacromolecules 2013, 14, 2765.
- Kristiansen, K. A.; Dalheim, M. Ø.; Christensen, B. E. *Periodate oxidation and macromolecular compaction of hyaluronan*. Pure and Applied Chemistry 2013, 85, 1893.
- Lervik, A.; Bedeaux, D.; Kjelstrup, S. *Active transport of the  $\text{Ca}^{2+}$ -pump: introduction of the temperature difference as a driving force*. European Biophysics Journal 2013, 42, 321.
- Lystvet, S. M.; Volden, S.; Singh, G.; Rundgren, I. M.; Wen, H.; Halskau, Ø.; Glomm, W. *Anticancer Activity from Gold-alpha-Lactalbumin Nanoconstructs?* The Journal of Physical Chemistry C 2013, 117, 2230.
- Lystvet, S. M.; Volden, S.; Singh, G.; Yasuda, M.; Halskau jr, Ø.; Glomm, W. *Tunable photophysical properties, conformation and function of nanosized protein-gold constructs*. RSC Advances 2013, 3, 482.
- Malmo, J.; Sandvig, A.; Vårum, K. M.; Strand, S. P. *Nanoparticle Mediated P-Glycoprotein Silencing for Improved Drug Delivery across the Blood-Brain Barrier: A siRNA-Chitosan Approach*. PLoS ONE 2013, 8, 1:e54182.
- Maurstad, G.; Stokke, B. T.; Vårum, K. M.; Strand, S. P. *PEGylated chitosan complexes DNA while improving polyplex colloidal stability and gene transfection efficiency*. Carbohydrate Polymers 2013, 94, 436.
- Morris, K. L.; Zibaee, S.; Chen, L.; Goedert, M.; Sikorski, P.; Serpell, L. C. *The Structure of Cross- $\beta$  Tapes and Tubes Formed by an Octapeptide,  $\alpha\text{S}\beta 1$* . Angewandte Chemie International Edition 2013, 52, 2279.
- Mumm, F.; Beckwith, K. M.; Bonde, S.; Martinez, K. L.; Sikorski, P. *A Transparent Nanowire-Based Cell Impalement Device Suitable for Detailed Cell-Nanowire Interaction Studies*. Small 2013, 9, 263.
- Nyström, S.; Psonka-Antonczyk, K. M.; Ellingsen, P. G.; Johansson, L. B. G.; Reitan, N.K.; Handrick, S.; Prokop, S.; Heppner, F. L.; Wegenast-Braun, B. M.; Jucker, M.; Lindgren, M.; Stokke, B. T.; Hammarström, P.; Nilsson, K. P. R. *Evidence for Age-Dependent in Vivo Conformational Rearrangement within A $\beta$  Amyloid Deposits*. ACS Chemical Biology 2013, 8, 1128.
- Nguyen, T. A.; Gregersen, Ø. W.; Männle, F.; Brachet, P. *Effects of hydrophobic polyhedral oligomeric silsesquioxane coating on water vapour barrier and water resistance properties of paperboard*. Journal of Sol-Gel Science and Technology 2013, 69, 267.
- Handå, A.; Nordtug, T.; Halstensen, S.; Olsen, A. J.; Reitan, K. I.; Olsen, Y.; Reinertsen, H. *Temperature-dependent feed requirements in farmed blue mussels (*Mytilus edulis L.*) estimated from soft tissue growth and oxygen consumption and ammonia-N excretion*. Aquaculture Research 2013, 44, 645.
- Olderøy, M. Ø.; Beckwith, M.; Rrinholz, F. P.; Lilledahl, M. B.; Sikorski, P.; Brinchmann, J. E. *Identification of functional structures in tissue engineered cartilage: from nm to macro scale*. European Cells and Materials 2013, 26, 23.
- Qin, F.; Gao, M.; Gawel, K.; Stokke, B. T. *High resolution interferometry as a tool for characterization of swelling of weakly charged hydrogels subjected to amphiphile and cyclodextrin exposure*. Journal of Colloid and Interface Science 2013, 390, 282.
- Qin, F.; Sletmoen, M.; Stokke, B. T.; Christensen, B. E. *Higher order structures of a bioactive, water-soluble (1→3)-*b*-*d*-glucan derived from *Saccharomyces cerevisiae**. Carbohydrate Polymers 2013, 92, 1026.
- Rodionova, G.; Saito, T.; Lenes, M.; Eriksen, Ø.; Gregersen, Ø. W.; Kuramae, R.; Isogai, A. *TEMPO-Mediated Oxidation of Norway Spruce and Eucalyptus Pulps: Preparation and Characterization of Nanofibers and Nanofiber Dispersions*. Journal of polymers and the environment 2013, 21, 207.
- Rokstad, A. M.; Brekke, O. L.; Steinkjer, B.; Ryan, L.; Kolláriková, G.; Strand, B. L.; Skjåk-Bræk, G.; Lambris, J. D.; Lacík, I.; Mollnes, T. E.; Espévik, T. *The induction of cytokines by polycation containing microspheres by a complement dependent mechanism*. Biomaterials 2013, 34, 621.
- Rokstad, A. M.; Strand, B. L.; Espévik, T.; Mollnes, T. E. *Biocompatibility and Biotolerability Assessment of Microspheres Using a Whole Blood Model*. Micro and Nanosystems 2013, 5, 177.
- Wen, H.; Glomm, W.; Halskau, Ø. *Cytotoxicity of bovine alpha-lactalbumin: Oleic acid complexes correlates with the disruption of lipid membranes*. Biochimica et Biophysica Acta - Biomembranes 2013, 1828, 2691.
- Zhao, Y.; van Rooy, I.; Hak, S.; Fay, F.; Tang, J.; Davies, C. de L.; Skobe, M.; Fisher, E. A.; Radu, A.; Fayad, Z. A.; Donega, C. de M.; Meijerink, A.; Mulder, W. J. M. *Near-infrared fluorescence energy transfer imaging of nanoparticle accumulation and dissociation kinetics in tumor-bearing mice*. ACS Nano 2013, 7, 10362.

## Not Nanotechnology – use of the ....

- Alsvik, I. L.; Hagg, M-B. *Preparation of thin film composite membranes with polyamide film on hydrophilic supports*. Journal of Membrane Science 2013, 428, 225.