Composites and Materials Mechanics - DTU Orbit (28/12/2017)

Composites and Materials Mechanics
Department of Wind Energy
Organisational unit: Section

Publications:

**Hybrid metallic nanocomposites for extra wear-resistant diamond machining tools**
Publication: Research - peer-review › Journal article – Annual report year: 2018

**A strain gauge**
Mikkelsen, L. P. & Gili, J. 19 Jan 2017
Publication: Research › Patent – Annual report year: 2017

**3d Finite Element Modelling of Non-Crimp Fabric Based Fibre Composite Based on X-Ray Ct Data**
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

**A method to investigate the biomechanical alterations in Perthes' disease by hip joint contact modeling**
Publication: Research - peer-review › Journal article – Annual report year: 2017

**Analysis of bearing steel exposed to rolling contact fatigue**
Publication: Research - peer-review › Journal article – Annual report year: 2017

**Challenges in experimental fatigue testing of glassfibre reinforced polymer matrix composites for wind turbine industry**
Sjøgreen, F. N. & Goutianos, S. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

**Characterization of voids in shock-loaded Al single crystal by combining X-ray tomography and electron microscopy**
Publication: Research - peer-review › Journal article – Annual report year: 2017

**Cohesive zone modelling of nucleation, growth and coalesce of cavities**
Publication: Research - peer-review › Journal article – Annual report year: 2017

**Comparison of fracture properties of cellulose nanopaper, printing paper and buckypaper**
Publication: Research - peer-review › Journal article – Annual report year: 2017

**Compression fatigue of Wind Turbine Blade composites materials and damage mechanisms**
Fraisse, A. & Brøndsted, P. 2017
Publication: Research - peer-review › Paper – Annual report year: 2017

**Computational Modelling of Materials for Wind Turbine Blades: Selected DTUWind Energy Activities**
Mikkelsen, L. P. & Mishnaevsky, L. 2017 In : Materials. 10, 11, 15 p., 1278
Interfaces between a fibre and its matrix
Publication: Research - peer-review » Conference article – Annual report year: 2017

Investigation of sizing - from glass fibre surface to composite interface
Petersen, H. N., Almdal, K., Brandsted, P., Kusano, Y. & Sørensen, B. F. 2017 DTU Nanotech. 84 p.
Publication: Research » Ph.D. thesis – Annual report year: 2017

Materials for Wind Turbine Blades: An Overview
Publication: Research - peer-review › Journal article – Annual report year: 2017

Mechanical properties of biaxially strained poly(L-lactide) tubes: Strain rate and temperature dependence
Publication: Research - peer-review › Journal article – Annual report year: 2017

Micromechanical model of the single fiber fragmentation test
Publication: Research - peer-review › Journal article – Annual report year: 2017

Modelling the elastic properties of cellulose nanopaper
Mao, R., Goutianos, S., Tu, W., Meng, N., Chen, S. & Peijs, T. 2017 In : Materials & Design. 126, p. 183-189
Publication: Research - peer-review › Journal article – Annual report year: 2017

Nanocomposites for Machining Tools
Sidorenko, D., Loginov, P., Mishnaevsky, L. & Levashov, E. 2017 In : Materials. 10, 10, 1171
Publication: Research - peer-review › Journal article – Annual report year: 2017

New approach for validating the segmentation of 3D data applied to individual fibre extraction
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Numerical modelling of micro-plasto-hydrodynamic lubrication in plane strip drawing
Publication: Research - peer-review › Journal article – Annual report year: 2016

Numerical modelling of microscopic lubricant flow in sheet metal forming. Application to plane strip drawing
Publication: Research - peer-review › Journal article – Annual report year: 2017

Optimized process for recovery of glass- and carbon fibers with retained mechanical properties by means of near- and supercritical fluids
Sokoli, H. U., Beauson, J., Simonsen, M. E., Fraisse, A., Brandsted, P. & Sogaard, E. G. 2017 In : Journal of Supercritical Fluids. 124, p. 80-89
Publication: Research - peer-review › Journal article – Annual report year: 2017

Potential solution for rain erosion of wind turbine blades
Publication: Research - peer-review » Sound/Visual production (digital) – Annual report year: 2017
Revealing fatigue damage evolution in unidirectional composites for wind turbine blades using x-ray computed tomography
Mikkelsen, L. P. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Selective Laser Melting of Hot Gas Turbine Components: Materials, Design and Manufacturing Aspects
Publication: Research - peer-review › Conference article – Annual report year: 2017

Self-Reinforced PLA Composites: Bio-based and Biodegradable Polymer Materials for Industrial Applications
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

Spatiotemporally resolved characteristics of a gliding arc discharge in a turbulent air flow at atmospheric pressure
Publication: Research - peer-review › Journal article – Annual report year: 2017

Specimen design and instrumentation for monitoring fatigue crack growth initiating at ply drops
Goutianos, S., Di Crescenzo, L., McGugan, M. & Sørensen, B. F. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Studying fatigue damage evolution in uni-directional composites using x-ray computed tomography
Mikkelsen, L. P. 2017
Publication: Research › Conference abstract for conference – Annual report year: 2017

Synchrotron measurements of local microstructure and residual strains in ductile cast iron
Publication: Research - peer-review › Conference article – Annual report year: 2017

Three dimensional fatigue damage evolution in non-crimp glass fibre fabric based composites used for wind turbine blades
Publication: Research - peer-review › Journal article – Annual report year: 2017

Translational, rotational, vibrational and electron temperatures of a gliding arc discharge
Publication: Research - peer-review › Journal article – Annual report year: 2017

Tunneling cracks in full scale wind turbine blade joints
Publication: Research - peer-review › Journal article – Annual report year: 2017

Uncovering fatigue damage development in unidirectional composites using x-ray computed tomography
Mikkelsen, L. P. 2017
Publication: Research › Conference abstract for conference – Annual report year: 2017
Unidirectional Fibre Composite Characterisation from X-ray Tomography
Publication: Research › Poster – Annual report year: 2017

A strain gauge
Mikkelsen, L. P. & Zike, S. 11 Feb 2016
Publication: Research › Patent – Annual report year: 2016

3D X-ray CT of fatigue damage in fibre composites
Publication: Research › Poster – Annual report year: 2016

An exponential chemorheological model for viscosity dependence on degree-of-cure of a polyfurfuryl alcohol resin during the post-gel curing stage
Publication: Research - peer-review › Journal article – Annual report year: 2016

Apparent interfacial shear strength of short-flax-fiber/starch acetate composites
Publication: Research - peer-review › Journal article – Annual report year: 2016

Approach for investigations of progressive fatigue damage in 3D in fibre composites using X-ray tomography
Publication: Research - peer-review › Paper – Annual report year: 2016

A simplified model predicting the weight of the load carrying beam in a wind turbine blade
Mikkelsen, L. P. 2016 In : IOP Conference Series: Materials Science and Engineering. 139, 8 p., 012038
Publication: Research - peer-review › Journal article – Annual report year: 2016

Carbon fiber/carbon nanotube reinforced hierarchical composites: Effect of CNT distribution on shearing strength
Publication: Research - peer-review › Journal article – Annual report year: 2016

Characterization and modelling of the mechanical properties of mineral wool
Publication: Research › Ph.D. thesis – Annual report year: 2016

Characterization Of Biaxial Strain Of Poly(L-Lactide) Tubes
Publication: Research - peer-review › Journal article – Annual report year: 2015

Cohesive zone modelling and the fracture process of structural tape
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Control and design of volumetric composition in pultruded hybrid fibre composites
Publication: Research - peer-review › Journal article – Annual report year: 2016
Controlled retting of hemp fibres: Effect of hydrothermal pre-treatment and enzymatic retting on the mechanical properties of unidirectional hemp/epoxy composites
Publication: Research - peer-review › Journal article – Annual report year: 2016

Delamination initiated by a defect
Publication: Research - peer-review › Journal article – Annual report year: 2016

Design of Wind Turbine Blades
Publication: Research - peer-review › Book chapter – Annual report year: 2016

Determination of a cohesive law for delamination modelling - Accounting for variation in crack opening and stress state across the test specimen width
Joki, R. K., Grytten, F., Hayman, B. & Sørensen, B. F. 2016 In : Composites Science and Technology. 128, p. 49-57
Publication: Research - peer-review › Journal article – Annual report year: 2016

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Effectiveness of the random sequential absorption algorithm in the analysis of volume elements with nanoplatelets
Publication: Research - peer-review › Journal article – Annual report year: 2016

Enhancement of fracture resistance of composite laminates by the creation of multiple delaminations
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Experimental determination of the micro-scale strength and stress-strain relation of an epoxy resin
Zike, S., Sørensen, B. F. & Mikkelsen, L. P. 2016 In : Materials & Design. 98, p. 47-60
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Ex-situ time-lapse x-ray CT study of 3D micro-structural fatigue damage evolution in uni-directional composites
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Fatigue damage assessment of uni-directional non-crimp fabric reinforced polyester composite using X-ray computed tomography
Publication: Research - peer-review › Journal article – Annual report year: 2016

Fatigue damage observed non-destructively in fibre composite coupon test specimens by X-ray CT
Publication: Research - peer-review › Journal article – Annual report year: 2016

FBG_Simul V1.0: Fibre Bragg grating signal simulation tool for finite element method models
Publication: Research - peer-review › Journal article – Annual report year: 2016
Fiber pull-out test and single fiber fragmentation test - analysis and modelling
Publication: Research - peer-review › Journal article – Annual report year: 2016

Fibre Bragg Grating as a Multi-Stage Structure Health Monitoring Sensor
Publication: Research - peer-review › Book chapter – Annual report year: 2016

Fibre Bragg Grating Sensor Signal Post-processing Algorithm: Crack Growth Monitoring in Fibre Reinforced Plastic Structures
Publication: Research - peer-review › Book chapter – Annual report year: 2016

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Publication: Research - peer-review › Journal article – Annual report year: 2016

Fracture resistance enhancement of layered structures by multiple cracks
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Gliding arc surface modification of carrot nanofibre coating - perspective for composite processing
Publication: Research - peer-review › Journal article – Annual report year: 2016

Hierarchical machining materials and their performance
Publication: Research - peer-review › Journal article – Annual report year: 2016

Hierarchical materials: Background and perspectives
Publication: Research - peer-review › Editorial – Annual report year: 2016

Hierarchical nanoreinforced composites: Computational analysis of damage mechanisms
Publication: Research - peer-review › Journal article – Annual report year: 2016

Influence of specimen type and reinforcement on measured tension-tension fatigue life of unidirectional GFRP laminates
Publication: Research - peer-review › Journal article – Annual report year: 2016

Influence of the curing cycles on the fatigue performance of unidirectional glass fiber reinforced epoxy composites
Publication: Research - peer-review › Journal article – Annual report year: 2016

Investigation of Mechanical Properties of Unidirectional Steel Fiber/Polyester Composites: Experiments and Micromechanical Predictions
Raghavalu Thirumalai, D. P., Legstrup Andersen, T., Bech, J. I. & Lilholt, H. 2016 In : Polymer Composites. 37, 2, p. 627-644
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MARE-WINT. New Materials and Reliability in Offshore Wind Turbine Technology
Publication: Research › Book – Annual report year: 2016

Matrices for natural fiber composites
Publication: Research - peer-review › Book chapter – Annual report year: 2016

Method for independent strain and temperature measurement in polymeric tensile test specimen using embedded FBG sensors
Publication: Research - peer-review › Journal article – Annual report year: 2016

Microstructure, quantification and control of dislocations in bast-type plant fibres
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Modelling of volumetric composition and mechanical properties of unidirectional hemp/epoxy composites - Effect of enzymatic fibre treatment
Publication: Research - peer-review › Journal article – Annual report year: 2016

Multi-life-stage monitoring system based on fibre Bragg grating sensors for more reliable wind turbine rotor blades: Experimental and numerical analysis of deformation and failure in composite materials
Pereira, G. F., Mikkelsen, L. P., McGugan, M. & Sørensen, B. F. 2016 DTU Wind Energy. 287 p. (DTU Wind Energy PhD; No. 0062(EN)).
Publication: Research › Ph.D. thesis – Annual report year: 2016

Nanomorphology of graphene and CNT reinforced polymer and its effect on damage: Micromechanical numerical study
Pontefisso, A. & Mishnaevsky, L. 2016 In : Composites Part B: Engineering. 96, p. 338-349
Publication: Research - peer-review › Journal article – Annual report year: 2016

Natural fibre selection for composite eco-design
Publication: Research - peer-review › Journal article – Annual report year: 2016

Optical Diagnostics of a Gliding Arc Discharge at Atmospheric Pressure
Publication: Research - peer-review › Book chapter – Annual report year: 2016

Recycling of shredded composites from wind turbine blades in new thermoset polymer composites
Publication: Research - peer-review › Journal article – Annual report year: 2016

Residual Strains and Their Relation to the Fatigue Damage Evolution in Composite Materials
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016
Development of new biomass-based furan/glass composites manufactured by the double-vacuum-bag technique
Publication: Research - peer-review › Journal article – Annual report year: 2015

Diamond and cBN hybrid and nanomodified cutting tools with enhanced performance: Development, testing and modelling
Publication: Research - peer-review › Journal article – Annual report year: 2015

Dictionary Based Segmentation in Volumes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Dictionary Based Segmentation in Volumes

DTU-ESA millimeter-wave Validation STandard antenna (mm-VAST) - detailed design
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DTU-ESA millimeter-wave validation standard antenna (mm-vast) – performance verification
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Effect of fiber positioning on mixed-mode fracture of interfacial debonding in composites
Publication: Research - peer-review › Journal article – Annual report year: 2015

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Effects of moisture on glass fiber-reinforced polymer composites
Publication: Research - peer-review › Journal article – Annual report year: 2015

Elastocaloric cooling device: Materials and modeling
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015

Elastocaloric effect of Ni-Ti wire for application in a cooling device
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Embedded Fibre Bragg Grating Sensor Response Model: Crack Growing Detection in Fibre Reinforced Plastic Materials
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Fatigue behaviour of uni-directional flax fibre/epoxy composites
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Fatigue damage evolution in fibre composites for wind turbine blades
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Fatigue life in textile composites used for wind energy engineering
Publication: Research - peer-review › Book chapter – Annual report year: 2015

Finite Element Verification of Non-Homogeneous Strain and Stress Fields during Composite Material Testing
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Forskning i vindenergi på DTU/Risø. Del 1-2
Publication: Communication › Sound/Visual production (digital) – Annual report year: 2015

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Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

From measurements errors to a new strain gauge design for composite materials
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Identification of true microstructure of composites based on various flax fibre assemblies by means of three-dimensional tomography
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Low temperature annealing of cold-drawn pearlitic steel wire
Measurements of 3D slip velocities and plasma column lengths of a gliding arc discharge
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Publication: Research - peer-review › Journal article – Annual report year: 2015

Micromechanical Investigation of Fatigue Damage in Uni-Directional Fibre Composites
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Mishnaevsky, L. & Levashov, E. 2015 In : Computational Materials Science. 96, p. 368-373
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Micromechanical Time-Lapse X-ray CT Study of Fatigue Damage in Uni-Directional Fibre Composites
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Zike, S., Mikkelsen, L. P., Sørensen, B. F. & Tvergaard, V. 2015 DTU Wind Energy. 152 p. (DTU Wind Energy PhD; No. 0050(EN)).
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Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015

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Modelling the double cantilever beam test with bending moments by using bilinear discontinuous cohesive laws
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Mishnaevsky, L. 2015 In : Composites Part B: Engineering. 68, p. 75-84
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Non-destructive automatic determination of aspect ratio and cross-sectional properties of fibres
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Publication: Research - peer-review › Journal article – Annual report year: 2015

Online Monitoring of Composite Overwrapped Pressure Vessels (COPV)
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Signal-based nonlinear modelling for damage assessment under variable temperature conditions by means of acousto-ultrasonics
Publication: Research - peer-review › Journal article – Annual report year: 2015

Small scale plasticity and compressive properties of composites
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Strength of cellulosic fiber/starch acetate composites with variable fiber and plasticizer content
Publication: Research - peer-review › Journal article – Annual report year: 2015

Structural Design of the DTU-ESA MM-Wave Validation Standard Antenna
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Structural health monitoring method for wind turbine trailing edge: Crack growth detection using Fibre Bragg Grating sensor embedded in composite materials
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Testing temperature on interfacial shear strength measurements of epoxy resins at different mixing ratios
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

The application of J integral to measure cohesive laws in materials undergoing large scale yielding
The DTU-ESA Millimeter-Wave Validation Standard Antenna – Manufacturing and Testing
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The Elastocaloric Effect: A Way to Cool Efficiently
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Thermoset composite recycling: Properties of recovered glass fiber
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Very large wind turbine rotor blades require damage tolerance and damage monitoring
Publication: Research › Poster – Annual report year: 2015

Volumetric composition and shear strength evaluation of pultruded hybrid kenaf/glass fiber composites
Publication: Research - peer-review › Journal article – Annual report year: 2015

Volumetric composition of nanocomposites
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

3-D computational model of poly (lactic acid)/halloysite nanocomposites: Predicting elastic properties and stress analysis
Publication: Research - peer-review › Journal article – Annual report year: 2014

A Critical Review of Future Materials for Wind Turbine Blades
Publication: Research - peer-review › Journal article – Annual report year: 2013

A J integral based method to measure fracture resistance and cohesive laws in materials exhibiting large scale plasticity
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Altered Biomechanics of a Perthes’ Hip Investigated by Contact Modeling
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2014

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Are reactive thermoplastic polymers suitable for future wind turbine composite materials blades?
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Kusano, Y. 2014 In : Journal of Adhesion. 90, 9, p. 755-777
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Dominguez, J. C. & Madsen, B. 2014 In : Industrial Crops and Products. 52, p. 321–328
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Consequence of reduced necrotic bone elastic modulus in a Perthes’ hip

Correction of Gauge Factor for Strain Gauges Used in Polymer Composite Testing
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Damage evolution under cyclic multiaxial stress state: A comparative analysis between glass/epoxy laminates and tubes
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Damage tolerant design: failure and crack propagation in composites
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Design and simulation of the rotating test rig in the INDUFLAP project
Barlas, T. K., Aagaard Madsen, H. & Legstrup Andersen, T. 2014 DTU Wind Energy. 80 p. (DTU Wind Energy E; No. 0063(EN)).
Publication: Research › Report – Annual report year: 2015

Design of a fibrous composite preform for wind turbine rotor blades
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DTU-ESA millimeter-wave validation standard antenna – requirements and design
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Nanostructured titanium-based materials for medical implants: Modeling and development
Publication: Research - peer-review › Journal article – Annual report year: 2014

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Non-equilibrium grain boundaries in titanium nanostructured by severe plastic deformation: Computational study of sources of material strengthening
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Publication: Research › Ph.D. thesis – Annual report year: 2014

Orientation of PLLA tubes under simultaneous biaxial strain
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Particle tracking velocimetry of a gliding arc discharge
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Plasma treatment of carbon fibres and glass-fibre-reinforced polyesters at atmospheric pressure for adhesion improvement
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Protocol for Quantification of Defects in Natural Fibres for Composites
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Recycling of wind turbines
Publication: Research - peer-review › Book chapter – Annual report year: 2014

Recycling solid residues recovered from glass fibre-reinforced composites – A review applied to wind turbine blade materials
Publication: Research - peer-review › Journal article – Annual report year: 2014

Smart Rotor Research at DTU Wind
Stability of alternating current gliding arcs
Publication: Research - peer-review › Journal article – Annual report year: 2014

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Mikkelsen, L. P. & Gill, J. 2014
Publication: Research › Conference abstract for conference – Annual report year: 2014

Sustained diffusive alternating current gliding arc discharge in atmospheric pressure air
Publication: Research - peer-review › Journal article – Annual report year: 2014

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Translational, rotational and vibrational temperatures of a gliding arc discharge at atmospheric pressure air
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Volumetric composition: Fiber content and porosity
Publication: Research - peer-review › Book chapter – Annual report year: 2015

2D micromechanical analysis of SiC/Al metal matrix composites under tensile, shear and combined tensile/shear loads
Qing, H. 2013 In : Materials & Design. 51, p. 438-447
Publication: Research - peer-review › Journal article – Annual report year: 2013

3D in situ observations of glass fibre/matrix interfacial debonding
Publication: Research - peer-review › Journal article – Annual report year: 2013

Adhesion improvement of fibres by continuous plasma treatment at atmospheric pressure
Publication: Research - peer-review › Conference article – Annual report year: 2013

Adhesion improvement of glass-fibre-reinforced polyester composites by gliding arc discharge treatment
Publication: Research - peer-review › Journal article – Annual report year: 2013

Advances in wind turbine blade design and materials
Determination of the gel point of a polyfurfuryl alcohol resin and characterization of its curing rheokinetics
Publication: Research - peer-review › Conference article – Annual report year: 2013

Determination of the minimum size of a statistical representative volume element from a fibre-reinforced composite based on point pattern statistics
Hansen, J. Z. & Brandsted, P. 2013 In : Scripta Materialia. 68, p. 503-505
Publication: Research - peer-review › Journal article – Annual report year: 2013

Editorial: Selected Publications of the EU FP7 project VIRTUAL NANO TITANIUM
Publication: Research - peer-review › Editorial – Annual report year: 2013

Effect of consolidation pressure on volumetric composition and stiffness of unidirectional flax fibre composites
Publication: Research - peer-review › Journal article – Annual report year: 2013

Effect of processing on fracture of binderfree all-cellulose composites
Publication: Research - peer-review › Conference article – Annual report year: 2013

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Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

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Publication: Research - peer-review › Book chapter – Annual report year: 2013

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Rasmussen, S. 2013 DTU Wind Energy. (DTU Wind Energy I; No. 51).
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Improved Compression Strength of Carbon/Glass/Epoxy Hybrid Composites
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Influence of Temperature on Mechanical Properties of Jute/Biopolymer Composites
Publication: Research - peer-review › Journal article – Annual report year: 2012

Interface debond crack growth in tension–tension cyclic loading of single fiber polymer composites
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Life cycle strain monitoring in glass fibre reinforced polymer laminates using embedded fibre Bragg grating sensors from manufacturing to failure
Publication: Research - peer-review › Journal article – Annual report year: 2013

Martensitic transformations in nanostructured nitinol: Finite element modelling of grain size and distribution effects
Liu, H-S. & Mishnaevsky, L. 2013 In : Computational Materials Science. 76, p. 27-36
Publication: Research - peer-review › Journal article – Annual report year: 2013

Mesh dependency of smeared-out non-linear composite finite element models of compressive failure mechanism in composite materials
Mikkelsen, L. P. 2013
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Micromechanical modelling of wind turbine blade materials
Publication: Research - peer-review › Book chapter – Annual report year: 2013

Microstructure and Mechanical Properties of Aligned Natural Fibre Composites
Publication: Research › Ph.D. thesis – Annual report year: 2013

Monitoring debond crack propagation and pullouts for a composite interface – Pullout tests
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2013

Multivariate data-driven modelling and pattern recognition for damage detection and identification for acoustic emission and acousto-ultrasonics
Publication: Research - peer-review › Journal article – Annual report year: 2013

Optical diagnostics of a gliding arc
Publication: Research - peer-review › Journal article – Annual report year: 2013
Quantitative study on the statistical properties of fibre architecture of genuine and numerical composite microstructures
Publication: Research - peer-review › Journal article – Annual report year: 2013

Secondary stress effects during load introduction into unidirectional composite test coupons
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2013

Selection of environmental sustainable fiber materials for wind turbine blades - a contra intuitive process?
Publication: Research - peer-review › Conference article – Annual report year: 2013

Stiffness of carbon fibre epoxy composite tube
Publication: Research › Report – Annual report year: 2013

Strain Gauge Application in Soft Material Testing
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2013

Surface modification of nanofibrillated cellulose films by atmospheric pressure dielectric barrier discharge
Siró, I., Kusano, Y., Normman, K., Goutianos, S. & Plackett, D. 2013 In : Journal of Adhesion Science and Technology. 27, 3, p. 294-308
Publication: Research - peer-review › Journal article – Annual report year: 2012

Tensile and compression properties of hybrid composites – A comparative study
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Testing composites for wind turbine blades
Mikkelsen, L. P. 2013
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2013

The effects of fibre architecture on fatigue life-time of composite materials
Hansen, J. Z., Brøndsted, P. & Østergaard, R. 2013 DTU Wind Energy. 188 p. (DTU Wind Energy PhD; No. 0018(EN)).
Publication: Research › Ph.D. thesis – Annual report year: 2013

Ultrasound enhanced 50 Hz plasma treatment of glass-fiber-reinforced polyester at atmospheric pressure
Publication: Research - peer-review › Journal article – Annual report year: 2012

Uncertainty modelling and code calibration for composite materials
Toft, H. S., Branner, K., Mishnaevsky, L. J. & Sørensen, J. D. 2013 In : Journal of Composite Materials. 47, 14, p. 1729-1747
Publication: Research - peer-review › Journal article – Annual report year: 2013

Volumetric composition in composites and historical data
Publication: Research - peer-review › Conference article – Annual report year: 2013
Water-cooled non-thermal gliding arc for adhesion improvement of glass-fibre-reinforced polyester
Publication: Research - peer-review › Journal article – Annual report year: 2013

Wire tensile test kobber Poly-Tech
Publication: Research › Report – Annual report year: 2013

Wood versus plant fibers: Similarities and differences in composite applications
Publication: Research - peer-review › Journal article – Annual report year: 2013

A Pull-out Test for Determining Interface Properties Between Steel Fibre and Polyester: A Micromechanical Model and New Experimental Technique
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Attribute Based Selection of Thermoplastic Resin for Vacuum Infusion Process: A Decision Making Methodology
Publication: Research - peer-review › Book chapter – Annual report year: 2012

Ballistic performance of micro- and nanostructured aluminium sheets
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Challenges Testing Composite Materials for Wind Turbine Blades
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Characterisation of Flax Fibres and Flax Fibre Composites. Being cellulose based sources of materials
Publication: Research › Ph.D. thesis – Annual report year: 2012

Composite materials for wind energy applications: micromechanical modeling and future directions
Mishnaevsky, L. 2012 In : Computational Mechanics. 50, 2, p. 195-207
Publication: Research - peer-review › Journal article – Annual report year: 2012

Computational testing and design of materials for wind energy and structural applications
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Design and test of box girder for a large wind turbine blade
Publication: Research › Report – Annual report year: 2013

Determination of the J integral for laminated double cantilever beam specimens: The curvature approach
Publication: Research - peer-review › Journal article – Annual report year: 2012
Path dependence of truss-like mixed mode cohesive laws
Publication: Research - peer-review › Journal article – Annual report year: 2012

Properties and performance of flax yarn/thermoplastic polyester composites
Publication: Research - peer-review › Journal article – Annual report year: 2012

Properties of Flax and Hemp composites
Publication: Research - peer-review › Book chapter – Annual report year: 2012

Strength and failure modes of ceramic multilayers
Publication: Research - peer-review › Journal article – Annual report year: 2012

Surface charging, discharging and chemical modification at a sliding contact
Publication: Research - peer-review › Journal article – Annual report year: 2012

Test Methods for Assessing Bimaterial Interfaces in Wind Turbine Blades
Sørensen, B. F. 2012 Abstracts. Indo-Danish Workshop On Future Composites Technologies for Wind Turbine Blades. p. 35-36
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

The effect of $O_2$ in a humid $O_2/N_2/NO_x$ gas mixture on NOx and N2O remediation by an atmospheric pressure dielectric barrier discharge
Teodoru, S., Kusano, Y. & Bogaerts, A. 2012 In : Plasma Processes and Polymers. 9, p. 652-689
Publication: Research - peer-review › Journal article – Annual report year: 2012

The Influence of Steel Fiber Plasticity on Kink-Band Formation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Ultrasound enhanced plasma surface modification at atmospheric pressure
Publication: Research - peer-review › Journal article – Annual report year: 2012

Wind Turbines – An Enabling Application for Structural Health Monitoring?
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

50-Hz plasma treatment of glass fibre reinforced polyester at atmospheric pressure enhanced by ultrasonic irradiation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Adhesion improvement of glass fibre reinforced polyester composite by atmospheric pressure plasma treatment
Generation and Applications of Atmospheric Pressure Plasmas

Hip supporting device
Brøndsted, P. & Kot, K. K. 2011

Measuring Cohesive Laws for Interfaces in Sandwich Structures

Projects:

Bio4Self
Beauson, J., Mikkelsen, L. P., Madsen, B., Christensen, J. & Mishnaevsky, L.
01/03/2016 → …

Alliance for Imaging and Modelling of Energy Applications
01/01/2014 → 31/12/2018

Future Technologies for Wind Energy: Blade materials, Turbine reliability, Computation tools, and Experimental methods
Raghavalu Thirumalai, D. P., Sørensen, B. F. & Mishnaevsky, L.
01/01/2013 → 31/12/2013

Raghavalu Thirumalai, D. P., Sørensen, B. F. & Mishnaevsky, L.
01/02/2012 → 31/12/2012

Theoretical analysis, design and virtual testing of biocompatibility and mechanical properties of titanium-based nanomaterials
Mishnaevsky, L. & Liu, H.
01/10/2011 → 31/03/2014

Development of commercially viable wind power system in Nepal
Mishnaevsky, L.
31/05/2011 → 30/06/2013

High reliability of large wind turbines via computational micromechanics based enhancement of materials performances
Mishnaevsky, L. & Dai, G.
01/05/2011 → 31/07/2015
Danish Centre for Composites Structures and Materials for Wind Turbines
01/04/2010 → 31/03/2017

3D virtual testing of composites for wind energy applications: Computational mesomechanics approach
Mishnaevsky, L.
01/05/2009 → 31/05/2011

Development of wind energy technologies in Nepal on the basis of natural materials
Mishnaevsky, L.
01/11/2007 → 31/08/2011

Activities:

Specimen design and instrumentation for monitoring fatigue crack growth initiating at ply drops
Goutianos, S. (Speaker), Di Crescenzo, L. (Speaker), McGugan, M. (Speaker), Sørensen, B. F. (Speaker)
8 Nov 2017 → 9 Nov 2017
Activity: Talks and presentations › Conference presentations

Compression Fatigue Testing and Damage in UD Glass Fibre Composites
Fraisse, A. (Other), Brøndsted, P. (Speaker)
12 Dec 2016
Activity: Talks and presentations › Conference presentations

NAFEMS Nordic Steering Committee (NNSC) (External organisation)
Mikkelsen, L. P. (Participant)
2015 → ...
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

Innovation from JSME 2015
Jespersen, K. M. (Participant)
14 Nov 2015 → 15 Nov 2015
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

Challenges of using composite materials for large wind turbine blades
Mikkelsen, L. P. (Lecturer)
2 Nov 2015
Activity: Talks and presentations › Conference presentations

Scientific Computing Using Python - 1
Jespersen, K. M. (Participant)
2 Jun 2015 → 4 Jun 2015
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

Fracture Mechanics for Laminated Composite Structures
Jespersen, K. M. (Participant)
18 May 2015 → 22 May 2015
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.
DTU Energy Conversion 2nd International PhD Summer School
Jespersen, K. M. (Participant)
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

DCAMM's Videnskabelige Råd (External organisation)
Mikkelsen, L. P. (Participant)
2013 → …
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

19th International Conference on Composite Materials
Zike, S. (Participant)
29 Jul 2013
Activity: Attending an event › Participating in or organising a conference

6th International Conference on Composites Testing and Model Identification
Zike, S. (Participant)
22 Apr 2013 → 24 Apr 2013
Activity: Attending an event › Participating in or organising a conference

DCAMM 14th Internal Symposium
Zike, S. (Participant)
13 Mar 2013 → 15 Mar 2013
Activity: Attending an event › Participating in or organising a conference

DTU Wind Energy's Board of Studies (Studienævn) (External organisation)
Mikkelsen, L. P. (Participant)
2012 → …
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

Polymers - Experimental characterization and numerical predictions
Zike, S. (Participant)
19 Sep 2012 → 20 Sep 2012
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

Composites Design Workshop VII
Zike, S. (Participant)
14 Aug 2012 → 23 Aug 2012
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

Multiscale Modelling of Complex Materials
Zike, S. (Participant)
21 May 2012 → 25 May 2012
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

Risø DTU Board of Studies (External organisation)
Mikkelsen, L. P. (Participant)
2007 → 2012
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

Press clippings:

Forskningens døgn - forskning for fremtiden
Lars Pilgaard Mikkelsen
29/04/2017
1 item of media coverage
Biofibre på spring til industrien
Bo Madsen
29/05/2015
1 media contribution
Press / Media