Jesper Henri Hattel - DTU Orbit (12/10/2017)
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Department of Mechanical Engineering - Head of section, professor
Manufacturing Engineering

Publications:

A methodology for online visualization of the energy flow in a machine tool
Publication: Research - peer-review › Journal article – Annual report year: 2017

Analysis of the equivalent indenter concept used to extract Young's modulus from a nano-indentation test: some new insights into the Oliver–Pharr method
Andriollo, T., Thorborg, J. & Hattel, J. H. 2017 In : Modelling and Simulation in Materials Science and Engineering. 25, 4, 22 p., 045004
Publication: Research - peer-review › Journal article – Annual report year: 2017

Cavity prediction in sand mould production applying the DISAMATIC process
Publication: Research - peer-review › Journal article – Annual report year: 2017

CFD simulation and statistical analysis of moisture transfer into an electronic enclosure
Publication: Research - peer-review › Journal article – Annual report year: 2016

Drying of a tape-cast layer: Numerical investigation of influencing parameters
Publication: Research - peer-review › Journal article – Annual report year: 2017

Flow visualization and simulation of the filling process during injection molding
Publication: Research - peer-review › Journal article – Annual report year: 2016

Graphite nodules and local residual stresses in ductile iron: Thermo-mechanical modeling and experimental validation
Publication: Research › Ph.D. thesis – Annual report year: 2017

Humidity Buildup in Electronic Enclosures Exposed to Constant Conditions
Publication: Research - peer-review › Journal article – Annual report year: 2017

Integrated Computational Modelling of Thermochemical Surface Engineering of Stainless Steel
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Laser additive manufacturing of multimaterial tool inserts: a simulation-based optimization study
Modelling the effect of coating on the stresses and microstructure evolution in chill casting of wind turbine main shafts

Multi-objective optimization of cellular scanning strategy in selective laser melting

Preface to special issue of selected papers from Theoretical, Experimental, and Computational Mechanics (TECM)

Thermal modelling of extrusion based additive manufacturing of composite materials

Thermo-Electrical Mathematical Model for Prediction of Ni-Cr Hot-Wire Temperature in Free Air and Inside Small Circular Cavities

A computational model for heterogeneous heating during pulsed laser irradiation of polymers doped with light-absorbing microparticles

A micro-mechanical analysis of thermo-elastic properties and local residual stresses in ductile iron based on a new anisotropic model for the graphite nodules: Paper
Andriollo, T., Thorborg, J., Tiedje, N. S. & Hattel, J. H. 2016 In : Modelling and Simulation in Materials Science and Engineering. 24, 5, 055012

Analysis of moisture transport between connected enclosures under a forced thermal gradient

Analysis of moisture transport between connected enclosures under a forced thermal gradient

Analytical solution to the 1D Lemaitre's isotropic damage model and plane stress projected implicit integration procedure

An analytical solution describing the shape of a yield stress material subjected to an overpressure
Mathematical modelling of coupled heat and mass transport into an electronic enclosure
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Modeling coupled heat and mass transfer during drying in tape casting with a simple ceramics-water system
Jabbari, M. & Hattel, J. 2016 In : Drying Technology. 34, 2, p. 244-253
Publication: Research - peer-review › Journal article – Annual report year: 2016

Modeling the effect of probe force on length measurements on polymer parts
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Modeling the elastic behavior of ductile cast iron including anisotropy in the graphite nodules
Publication: Research - peer-review › Journal article – Annual report year: 2016

Modelling of fluid flow in tape casting of thin ceramics: Analytical approaches and numerical investigations
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Modelling the deformation of nickel foil during manufacturing of nanostructures on injection moulding tool inserts
Publication: Research - peer-review › Conference article – Annual report year: 2016

Modelling the deformations during the manufacturing of nanostructures on non-planar surfaces for injection moulding tool inserts: Paper
Publication: Research - peer-review › Journal article – Annual report year: 2016

Modelling the evolution of composition-and stress-depth profiles in austenitic stainless steels during low-temperature nitriding: Paper
Jespersen, F. N., Hattel, J. H. & Somers, M. A. J. 2016 In : Modelling and Simulation in Materials Science and Engineering. 24, 2, 32 p., 025003
Publication: Research - peer-review › Journal article – Annual report year: 2016

Modelling the flexible stamp deformations during NIL on curved surfaces
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Moisture ingress into electronics enclosures under isothermal conditions
Publication: Research - peer-review › Conference article – Annual report year: 2016

Multiple Crack Growth Prediction in AA2024-T3 Friction Stir Welded Joints, Including Manufacturing Effects
Publication: Research - peer-review › Journal article – Annual report year: 2016
Numerical modelling of evaporation in a ceramic layer in the tape casting process
Publication: Research - peer-review › Conference article – Annual report year: 2016

Numerical modelling of the flow in the resin infusion process on the REV scale: A feasibility study
Publication: Research - peer-review › Conference article – Annual report year: 2016

Numerical simulation of transient moisture and temperature distribution in polycarbonate and aluminum electronic enclosures
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Numerical Simulation of Transient Moisture Transfer into an Electronic Enclosure
Publication: Research - peer-review › Conference article – Annual report year: 2016

On the isotropic elastic constants of graphite nodules in ductile cast iron: Analytical and numerical micromechanical investigations
Publication: Research - peer-review › Journal article – Annual report year: 2016

Optimization of electronic enclosure design for thermal and moisture management using calibrated models of progressive complexity
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Particle migration using local variation of the viscosity (LVOV) model in flow of a non-Newtonian fluid for ceramic tape casting
Publication: Research - peer-review › Journal article – Annual report year: 2016

Probabilistic analysis of a thermosetting pultrusion process
Publication: Research - peer-review › Journal article – Annual report year: 2016

Reducing residual stresses and deformations in selective laser melting through multi-level multi-scale optimization of cellular scanning strategy
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Rheological Characterization of Green Sand Flow
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017
Robotic Hot-Blade Cutting: An Industrial Approach to Cost-Effective Production of Double Curved Concrete Structures
Publication: Research - peer-review › Book chapter – Annual report year: 2016

Semi-empirical prediction of moisture build-up in an electronic enclosure using analysis of variance (ANOVA)
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Simulating the DISAMATIC process using the discrete element method — a dynamical study of granular flow
Publication: Research - peer-review › Journal article – Annual report year: 2016

Thermo-coupled Surface Cauchy-Born Theory: An Engineering Finite Element Approach to Modeling of Nanowire Thermomechanical Response
Publication: Research - peer-review › Journal article – Annual report year: 2015

Three-dimensional local residual stress and orientation gradients near graphite nodules in ductile cast iron
Publication: Research - peer-review › Journal article – Annual report year: 2016

Three-dimensional numerical modeling of an induction heated injection molding tool with flow visualization
Publication: Research - peer-review › Journal article – Annual report year: 2016

Vortex behavior of the Oldroyd-B fluid in the 4-1 planar contraction simulated with the streamfunction–log-conformation formulation
Publication: Research - peer-review › Journal article – Annual report year: 2016

Analysis of Ingot Forging Damage Evolution Using Different Simulation Methods
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

A new numerical framework to simulate viscoelastic free-surface flows with the finite-volume method
Publication: Research - peer-review › Conference article – Annual report year: 2015

Cellular scanning strategy for selective laser melting: Generating reliable, optimized scanning paths and processing parameters
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Cellwise conservative unsplit advection for the volume of fluid method
Publication: Research - peer-review › Journal article – Annual report year: 2015
Comparison of residual stresses in sand- and chill casting of ductile cast iron wind turbine main shafts
Publication: Research - peer-review › Conference article – Annual report year: 2015

Defining Allowable Physical Property Variations for High Accurate Measurements on Polymer Parts.
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Flow Dynamics of green sand in the DISAMATIC moulding process using Discrete element method (DEM)
Publication: Research - peer-review › Conference article – Annual report year: 2015

Integrated FEM-DBEM simulation of crack propagation in AA2024-T3 FSW butt joints considering manufacturing effects
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Integrated Modelling of Crack Propagation in AA2024-T3 FSW Butt Joints Considering The Residual Stresses from the Manufacturing Process
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Investigation of process induced warpage for pultrusion of a rectangular hollow profile
Publication: Research - peer-review › Journal article – Annual report year: 2015

Mechanical Modelling of Pultrusion Process: 2D and 3D Numerical Approaches
Publication: Research - peer-review › Journal article – Annual report year: 2014

Modeling and simulation of the deformation process of PTFE flexible stamps for nanoimprint lithography on curved surfaces
Publication: Research - peer-review › Journal article – Annual report year: 2015

Modeling of damage in ductile cast iron – The effect of including plasticity in the graphite nodules
Publication: Research - peer-review › Conference article – Annual report year: 2015

Modelling of composition and stress profiles in low temperature surface engineered stainless steel
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Modelling residual stresses in friction stir welding of Al alloys - a review of possibilities and future trends
Publication: Research - peer-review › Journal article – Annual report year: 2014

Modelling the residual stresses and microstructural evolution in Friction Stir Welding of AA2024-T3 including the Wagner-Kampmann precipitation model
Modelling the solidification of ductile cast iron parts with varying wall thicknesses
Publication: Research - peer-review › Conference article – Annual report year: 2015

Multiscale coupling based on quasicontinuum method in nanowires at finite temperatures
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Numerical modelling of damage evolution in ingot forging
Publication: Research - peer-review › Conference article – Annual report year: 2015

Numerical simulation of viscoelastic free-surface flows using a streamfunction/log-conformation formulation and the volume-of-fluid method
Publication: Research › Ph.D. thesis – Annual report year: 2015

Outcomes of the DeepWind Conceptual Design
Publication: Research - peer-review › Conference article – Annual report year: 2015

Pultrusion of a vertical axis wind turbine blade part-I: 3D thermo-chemical process simulation
Publication: Research - peer-review › Journal article – Annual report year: 2014

Pultrusion of a vertical axis wind turbine blade part-II: combining the manufacturing process simulation with a subsequent loading scenario
Publication: Research - peer-review › Journal article – Annual report year: 2014

Robust simulations of viscoelastic flows at high Weissenberg numbers with the streamfunction/log-conformation formulation
Publication: Research - peer-review › Journal article – Annual report year: 2015

Temperature Dependence and Magnetic Properties of Injection Molding Tool Materials Used in Induction Heating
Publication: Research - peer-review › Journal article – Annual report year: 2015

The influence of the graphite mechanical properties on the constitutive response of a ferritic ductile cast iron – A micromechanical FE analysis
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Three-Dimensional Modeling of Glass Lens Molding
Publication: Research - peer-review › Journal article – Annual report year: 2015
Analysis of Cavity Pressure and Warpage of Polyoxymethylene Thin Walled Injection Molded Parts: Experiments and Simulations
Publication: Research - peer-review › Conference article – Annual report year: 2014

An evaluation of interface capturing methods in a VOF based model for multiphase flow of a non-Newtonian ceramic in tape casting
Publication: Research - peer-review › Journal article – Annual report year: 2014

A TEM Study on the Ti-Alloyed Grey Iron
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

A Two-Phase Flow Solver for Incompressible Viscous Fluids, Using a Pure Streamfunction Formulation and the Volume of Fluid Technique
Publication: Research - peer-review › Conference article – Annual report year: 2014

Bingham plastic fluid flow model in tape casting of ceramics using two doctor blades – analytical approach
Publication: Research - peer-review › Journal article – Annual report year: 2014

Cellular Scanning Strategy for Selective Laser Melting: Capturing Thermal Trends with a Low-Fidelity, Pseudo-Analytical Model
Publication: Research - peer-review › Journal article – Annual report year: 2014

DeepWind - from Idea to 5 MW Concept
Publication: Research - peer-review › Conference article – Annual report year: 2014

DeepWind. From idea to 5 MW concept
Publication: Research › Sound/Visual production (digital) – Annual report year: 2014

Effect of Uncertainty in Processing Parameters on the Microstructure of Single Melt Tracks Formed by Selective Laser Melting
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Evaluation of the DeepWind concept
Publication: Research - peer-review › Report – Annual report year: 2014

Evaluation of the viscoelastic behaviour and glass/mould interface friction coefficient in the wafer based precision glass moulding
Fluid flow modelling in tape casting of ceramics: analytical and numerical approaches
Jabbari, M. & Hattel, J. H. 2014

Investigation of process induced residual stresses and deformations for industrially pultruded parts having UD and CFM layers

Investigation of the spring-in of a pultruded L-shaped profile for various processing conditions and thicknesses

Material characterization of a polyester resin system for the pultrusion process
Baran, I., Akkerman, R. & Hattel, J. H. 2014 In : Composites Part B: Engineering. 64, p. 194–201

Modelling of defects in ingot forging: with the finite element flow formulation

Modelling of Tape Casting for Ceramic Applications

Modelling the deformation process of flexible stamps for nanoimprint lithography

Modelling the pultrusion process of an industrial L-shaped composite profile

Modelling the Pultrusion Process of Off Shore Wind Turbine Blades

Multi-objective optimization of die geometry in ingot forging

Numerical Model based Reliability Estimation of Selective Laser Melting Process

Numerical modeling of AA2024-T3 friction stir welding process for residual stress evaluation, including softening effects

Physical modeling and numerical simulation of V-die forging ingot with central void
Precision Glass Molding: Validation of an FE Model for Thermo-Mechanical Simulation

The effect of mandrel configuration on the warpage in pultrusion of rectangular hollow profiles

The Effect of Product Size on the Pulling Force in Pultrusion

Thermo-mechanical process modelling of industrially pultruded parts having UD and CFM layers

Towards nanoimprint lithography on free-form surfaces: A global/local modelling approach for predicting the deformation of the flexible stamp

Towards nanoimprint lithography on free-form surfaces: A global/local modelling approach for predicting the deformation of the flexible stamp

3D thermo-chemical-mechanical analysis of the pultrusion process

A CFD Approach for Prediction of Unintended Porosities in Aluminum Syntactic Foam: A Preliminary Study

A CFD-Model for prediction of unintended porosities in metal matrix composites: A preliminary study

A finite volume alternate direction implicit approach to modeling selective laser melting

A new numerical framework to simulate viscoelastic free-surface flows with the finite-volume method
Comminal, R., Spangenberg, J. & Hattel, J. H. 2013
An explanation of the mechanism for laser induced selective activation using diffusion theory
Publication: Research - peer-review › Journal article – Annual report year: 2013

Application of nanometrology to polymer production
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2013

A Two-Phase Flow Solver for Incompressible Viscous Fluids, Using a Pure Streamfunction Formulation and the Volume of Fluid Technique
Comminal, R., Spangenberg, J. & Hattel, J. H. 2013
Publication: Research - peer-review › Paper – Annual report year: 2013

Cellular scanning strategy for selective laser melting: Evolution of optimal grid-based scanning path & parametric approach to thermal homogeneity
Publication: Research - peer-review › Conference article – Annual report year: 2013

Computational Approaches for Modeling the Multiphysics in Pultrusion Process
Publication: Research - peer-review › Journal article – Annual report year: 2013

Design Optimization of a 5 MW Floating Offshore Vertical-axis Wind Turbine
Publication: Research - peer-review › Conference article – Annual report year: 2013

Evaluation of the process induced residual stresses at the web-flange junctions of pultruded GFRP profiles
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2013

Interface Behavior in Functionally Graded Ceramics for the Magnetic Refrigeration: Numerical Modeling
Publication: Research - peer-review › Conference article – Annual report year: 2013

Investigation on the Effect of Sulfur and Titanium on the Microstructure of Lamellar Graphite Iron
Publication: Research - peer-review › Conference article – Annual report year: 2013

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

Modeling constitutive and micro-scale frictional behavior of PTFE
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2013
Modeling of the interface behavior in tape casting of functionally graded ceramics for magnetic refrigeration parts
Publication: Research - peer-review › Journal article – Annual report year: 2013

Modeling the constitutive and frictional behavior of PTFE flexible stamps for nanoimprint lithography
Publication: Research - peer-review › Journal article – Annual report year: 2013

Modeling the mechanical deformation of nickel foils for nanoimprint lithography on double-curved surfaces
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Modeling the mechanical deformation of PTFE flexible stamps for nanoimprint lithography on double-curved surfaces
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Modelling Eutectic Growth in Unmodified and Modified Near-Eutectic Al-Si Alloy
Publication: Research - peer-review › Conference article – Annual report year: 2014

Modelling of Damage During Hot Forging of Ingots
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Multi-Criteria Optimization in Friction Stir Welding Using a Thermal Model with Prescribed Material Flow
Tutum, C. C., Deb, K. & Hattel, J. H. 2013 In : Materials & Manufacturing Processes. 28, 7, p. 816-822
Publication: Research - peer-review › Journal article – Annual report year: 2013

Nanopatterning of Polymer Replication Tools
Publication: Research - peer-review › Poster – Annual report year: 2013

Numerical and semi-analytical modelling of the process induced distortions in pultrusion
Publication: Research - peer-review › Conference article – Annual report year: 2013

Numerical modeling of magnetic induction and heating in injection molding tools
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Numerical Modeling of the Side Flow in Tape Casting of a Non-Newtonian Fluid
Publication: Research - peer-review › Journal article – Annual report year: 2013

Numerical optimization of die geometry in open die forging
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Numerical simulations of viscoelastic flows with free surfaces
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013
The Internal Stress Evaluation of Pultruded Blades for a Darrieus Wind Turbine
Publication: Research - peer-review › Conference article – Annual report year: 2013

Thermo-Chemical Modelling Strategies for the Pultrusion Process
Publication: Research - peer-review › Journal article – Annual report year: 2013

Utilizing multiple objectives for the optimization of the pultrusion process based on a thermo-chemical simulation
Publication: Research - peer-review › Conference article – Annual report year: 2013

1st DeepWind 5 MW Baseline design
Publication: Research - peer-review › Conference article – Annual report year: 2012

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Sonne, M. R., Hattel, J. H. & Kristensen, A. 2012 Publication: Research › Conference abstract for conference – Annual report year: 2012

Addressing the mechanical deformation of flexible stamps for nanoimprint lithography on double-curved surfaces

Analysis of nucleation modelling in ductile cast iron
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

A solidification model for unmodified, Na-modified and Sr-modified Al-Si alloys
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

A TEM Study on the Microstructure of Fine Flaky Graphite
Moumeni, E., Tiedje, N. S., Horsewell, A. & Hattel, J. H. 2012 Publication: Research › Conference abstract for conference – Annual report year: 2012

Effect of titanium on the near eutectic grey iron
Moumeni, E., Tiedje, N. S. & Hattel, J. H. 2012 Publication: Research › Conference abstract for conference – Annual report year: 2012

Elimination of Hot Tears in Steel Castings by Means of Solidification Pattern Optimization
Publication: Research - peer-review › Journal article – Annual report year: 2012

Estimating the workpiece-backingplate heat transfer coefficient in friction stirwelding
Publication: Research - peer-review › Journal article – Annual report year: 2012
Experimental Determination and Numerical Modelling of Process Induced Strains and Residual Stresses in Thick Glass/Epoxy Laminate
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Flow induced particle migration in fresh concrete: Theoretical frame, numerical simulations and experimental results on model fluids
Publication: Research - peer-review › Journal article – Annual report year: 2012

In situ measurement using FBGs of process-induced strains during curing of thick glass/epoxy laminate plate: experimental results and numerical modelling
Publication: Research - peer-review › Journal article – Annual report year: 2012

Interface Oscillation in the Side-by-Side (SBS) Tape Casting of Functionally Graded Ceramics (FGCs)
Publication: Research › Conference abstract in journal – Annual report year: 2012

Investigation of the thermal contact resistance in thermosetting pultrusion process
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Modelling and simulation of A-segregates in steel castings using a thermal criterion function: Part I - Background and validation
Kotas, P. & Hattel, J. H. 2012 In : Materials Science and Technology. 28, 7, p. 872-878
Publication: Research - peer-review › Journal article – Annual report year: 2012

Modelling the void deformation and closure by hot forging of ingot castings
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Numerical modeling of the conduction and radiation heating in precision glass moulding
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Numerical Modeling of the Flow of a Power Law Ceramic Slurry in the Tape Casting Process
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Numerisk modellering af formfyldning ved støbning i selvkompakterende beton
Publication: Research › Ph.D. thesis – Annual report year: 2013

Patterns of gravity induced aggregate migration during casting of fluid concretes
Modeling of flow of particles in a non-Newtonian fluid using lattice Boltzmann method
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Numerical Modeling of Fluid Flow in the Tape Casting Process
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Numerical optimisation of friction stir welding: review of future challenges
Publication: Research - peer-review › Conference article – Annual report year: 2011

Optimization of Casting Process Parameters for Homogeneous Aggregate Distribution in Self-Compacting Concrete: A Feasibility Study
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

State-of-the-Art Multi-Objective Optimisation of Manufacturing Processes Based on Thermo-Mechanical Simulations
Publication: Research - peer-review › Book chapter – Annual report year: 2011

Development of lead-free solders for high-temperature applications
Publication: Research › Ph.D. thesis – Annual report year: 2010

Process optimization of friction stir welding based on thermal models
Publication: Research › Ph.D. thesis – Annual report year: 2010

Optimization of Thermo-mechanical Conditions in Friction Stir Welding
Publication: Research › Ph.D. thesis – Annual report year: 2010

A Casting Yield Optimization Case Study: Forging Ram
Publication: Research - peer-review › Journal article – Annual report year: 2010

A comprehensive parameter study of an active magnetic regenerator using a 2D numerical model
Publication: Research - peer-review › Journal article – Annual report year: 2010

A Multi-objective Optimization Application In Friction Stir Welding: Considering Thermo-mechanical Aspects
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Design of lead-free candidate alloys for high-temperature soldering based on the Au–Sn system
Publication: Research - peer-review › Journal article – Annual report year: 2010
Thermal modelling of friction stir welding
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Two-dimensional mathematical model of a reciprocating room-temperature Active Magnetic Regenerator
Publication: Research - peer-review › Journal article – Annual report year: 2008

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Optimization of Thermal Aspects of Friction Stir Welding Using Space and Manifold Mapping Techniques
Publication: Research › Conference abstract for conference – Annual report year: 2007

Integrated Modelling of Manufacturing Processes and Service Conditions: Analysis of satellite failure on a P91 HP valve
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Material Flow in Butt Friction Stir Welds in AA2024-T3
Publication: Research - peer-review › Journal article – Annual report year: 2006

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Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

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Publication: Research - peer-review › Conference article – Annual report year: 2006

Numerical modelling of solidification of thin walled hypereutectic ductile cast iron
Pedersen, K. M., Hattel, J. & Tiedje, N. 2006 Modeling of Casting, Welding and Advanced Solidification Processes XI.
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Numerical modelling of thin-walled hypereutectic ductile cast iron parts
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Stellite failure on a P91 HP valve - failure investigation and modelling of residual stresses
Publication: Research - peer-review › Journal article – Annual report year: 2006
Heat source models in simulation of heat flow in friction stir welding
Publication: Research - peer-review › Conference article – Annual report year: 2004

Heat Source Models in Simulation of Heat Flow in Friction Stir Welding
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Integrated modelling of the welding, machining and heat treatment processes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Inverse thermal analysis method to study solidification in cast iron
Publication: Research - peer-review › Journal article – Annual report year: 2004

Modelling thermomechanical conditions at the tool/matrix interface in Friction Stir Welding
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Obtaining Material Data for Heat Treatment Simulation of Casr Alloy Parts with Unified Models
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Simulation of Stress-Strain behavior for one-dimensional aluminum samples subjected to high temperature
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

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Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

An Integrated Approach for the Numerical Modelling of the Spray Forming Process
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

A Numerical Model for the Thermomechanical Conditions During Hydration of Early-age Concrete
Publication: Research - peer-review › Journal article – Annual report year: 2003

Modelling of the Contact Condition at the Tool/Matrix Interface in Friction Stir Welding
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003
Numerical Model for the Prediction of Gaussian and Billet Shapes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Thermo-elasto-plasticity in Solidification Processes Using the Control Volume Method on Staggered Grid
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

An Integrated Numerical Model of the Spray Forming Process
Publication: Research - peer-review › Journal article – Annual report year: 2002

Department of Manufacturing Engineering and Management - a new profile in education and research
Alting, L. & Hattel, J. H. 2002 *International Manufacturing Education Conference*. Enschede: University of Twente
Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

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Publication: Research - peer-review › Article in proceedings – Annual report year: 2001

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Publication: Research - peer-review › Article in proceedings – Annual report year: 2001

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Publication: Research - peer-review › Book – Annual report year: 2001

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Publication: Research - peer-review › Article in proceedings – Annual report year: 2000

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Publication: Research - peer-review › Article in proceedings – Annual report year: 2000

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Experimental determination of the heat transfer coefficient under dynamic process conditions in backward can extrusion

Experimental measurements of die temperatures and determination of heat transfer coefficient in backward can extrusion

Matematisk modelbeskrivelse og numerisk simulering af støbeprocesser

Matematisk modelbeskrivelse og numerisk simulering af støbeprocesser

Mathematical modelling and numerical simulation of casting processes

Mathematical modelling and numerical simulation of casting processes

Measurement of the temperature and determination of heat transfer coefficient in bacward can extrusion

MM98.04 Measurement of temperature and determination of heat transfer coefficient in backward can extrusion

MM98.34 Experimental Measurements of Die temperatures and determination of heat transfer coefficient in backward can extrusion

MM98.43 Experimental determination of the heat transfer coefficient Under dynamic process conditions in backward can extrusion

On the lack of dependence of extent of columnar growth on wheel speed for melt-spun 12Cr-Mo-V steel

Stress strain modelling of casting processes in the framework of the control volume method
Stress/strain Modelling of Casting Processes in the Framework of the Control-Volume Method
Hattel, J. H., Thorborg, J. & Andersen, S. 1998 Modeling of Casting and Advanced Solidification Processes VIII.
Publication: Research - peer-review › Article in proceedings – Annual report year: 1998

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Publication: Research - peer-review › Journal article – Annual report year: 1998

The relation between experiments and modelling of rapidly solidified martensitic steel
Publication: Research - peer-review › Journal article – Annual report year: 1998

Numerical modelling of rapid solidification
Pryds, N. & Hattel, J. H. 1997 In : Modelling and Simulation in Materials Science and Engineering. 5, 5, p. 451-472
Publication: Research - peer-review › Journal article – Annual report year: 1997

Numerical modelling of stresses and deformations in casting processes
Publication: Research - peer-review › Article in proceedings – Annual report year: 1997

Predicting hot tears in steel castings using casting simulation tools
Publication: Research - peer-review › Article in proceedings – Annual report year: 1997

Proceedings of MP2M Seminar
Publication: Research - peer-review › Book – Annual report year: 1997

Process optimering af SG-jern
Publication: Research - peer-review › Report – Annual report year: 1997

Process optimisation of SG-iron castings
Publication: Research - peer-review › Report – Annual report year: 1997

Real-time simulation of thermal stresses and creep in plates subjected to transient heat input
Publication: Research - peer-review › Journal article – Annual report year: 1997

Beregning af spændinger og deformationer i svejsning
Publication: Research - peer-review › Book – Annual report year: 1996

Beregninger af spændinger og deformationer i svejsning
Publication: Education › Compendium/lecture notes – Annual report year: 1996

Grundlæggende analyse af varmetransmissionsforhold ved svejsning
Grundlæggende analyse af varmetransmissionsforhold ved svejsning

Publication: Research - peer-review › Book – Annual report year: 1996

Simulation versus reality of an industrial ductile iron casting
Aagaard, R., Hattel, J. H., Svensson, I., Hansen, P. N. & Schaeffer, W. 1996 AFS Transaction 100th Casting Congress and CASTExpo. AFS

Publication: Research - peer-review › Article in proceedings – Annual report year: 1996

A control volume based finite difference method for solving the equilibrium equations in terms of displacements

Publication: Research - peer-review › Journal article – Annual report year: 1995

A numerical investigation of the influence of creep on the stress levels and crack growth rates in high pressure die casting dies in the quasi-stationary state

Publication: Research - peer-review › Journal article – Annual report year: 1995

En introduktion til numeriske beregningsmetoder for svejseprocesser
Hattel, J. 1995 Technical University of Denmark (DTU). 30 p.

Publication: Education › Compendium/lecture notes – Annual report year: 1995

Grundlæggende varmelære for termiske materialeprocesser

Publication: Education › Compendium/lecture notes – Annual report year: 1995

Numerical simulation of welding, - possibilities with the finite difference method

Publication: Research › Article in proceedings – Annual report year: 1995

Numeriske beregningsmetoder af temperaturforløb ved svejsning

Publication: Education › Compendium/lecture notes – Annual report year: 1995

Termiske spændinger i svejsning

Publication: Education › Compendium/lecture notes – Annual report year: 1995

A 1-D Analytical Model for the Thermally Induced Stresses in the Mould Surface During Die Casting
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Publication: Research - peer-review › Journal article – Annual report year: 1994

Analysis of thermally induced stresses in die casting using a novel control volume technique

Publication: Research - peer-review › Article in proceedings – Annual report year: 1993

Control volume based finite difference method, -numerical simulation of thermal and mechanical conditions in casting and heat treatment processes

Publication: Research › Ph.D. thesis – Annual report year: 1993
Modelling the thermo-metallurgical-mechanical conditions in precision additive metal manufacturing
Bayat, M., Hattel, J. H., Mohanty, S., Thorborg, J. & Tiedje, N. S.
01/10/2017 → 30/09/2020
Project: PhD

Numerical modelling of heat treatment and post processing of additive manufactured metal parts
De Baere, D., Hattel, J. H., Mohanty, S., Thorborg, J. & Tiedje, N. S.
01/09/2017 → 31/08/2020
Project: PhD

Numerical Modelling of Material Flow in the Resin Infusion Pultrusion Process
Sandberg, M., Spangenberg, J., Baran, I. & Hattel, J. H.
15/08/2017 → 14/08/2020
Project: PhD

Numerical Modelling and Experimental Characterization of the Resin Injection Pultrusion Process
01/04/2017 → 05/05/2020
Project: PhD

Microporportioning with crushed sand: experiment and simulations of fine particles effect on rheology
Ramenskiy, E., Jacobsen, S., Hattel, J. H. & Spangenberg, J.
01/02/2016 → 17/11/2016
Project: PhD

Interaction of stress and phase transformations during thermochemical surface engineering
Kücüküylidiz, Ö. C., Hattel, J. H., Somers, M. A. J. & Thorborg, J.
01/10/2015 → 30/09/2018
Project: PhD

Bonding processes for large wind turbine blades - numerical modelling and experimental verification
01/09/2015 → 31/03/2017
Project: PhD

Exhaust Gas Valve for High Temperatures
Hattel, J. H. & Sonne, M. R.
01/01/2015 → 31/12/2017
Project

Modelling Climatic Reliability of Electronic Devices
Shojaee Nasirabad, P., Hattel, J. H., Mohanty, S. & Spangenberg, J.
01/11/2014 → 31/10/2017
Project: PhD

Modeling for Dynamic Length Metrology in Accurate Manufacture
Mohammadi, A., Hattel, J. H. & Sonne, M. R.
01/10/2014 → 30/09/2017
Project: PhD

Climatic Reliability of Electronic Devices
Conseil, H., Ambat, R., Hattel, J. H. & Jellesen, M. S.
01/11/2013 → 30/10/2017
Developing semi-empirical models for predicting climate inside electronic device enclosures
Staliulionis, Z., Hattel, J. H., Ambat, R., Jellesen, M. S. & Mohanty, S.  
15/10/2013 → 22/07/2017
Project: PhD

Numerical modeling of the hot wire and hot blade cutting processes
Petkov, K., Hattel, J. H., Thorborg, J., Ahn, D. & Alchison, D. R.  
15/09/2013 → 16/02/2017
Project: PhD

Modelling the Effects of Process Induced Defects on Subsequent Mechanical Behaviour of Cast Components
Andriollo, T., Hattel, J. H., Thorborg, J., Tiedje, N. S., Niordson, C. F., Bellet, M. & Kouznetsova, V.  
01/09/2013 → 16/02/2017
Project: PhD

Thermomechanical modelling of casting large wind turbine parts
01/09/2013 → 07/07/2017
Project: PhD

Design and testing of high performance regenerators
Lei, T., Engelbrecht, K., Nielsen, K. K., Nielsen, K. K., Hattel, J. H., Barbosa Jr., J. R. & Furberg, R.  
15/08/2013 → 14/12/2016
Project: PhD

Numerical Simulation of Flow and Compression of Green Sand
15/08/2013 → 07/09/2017
Project: PhD

BLADERUNNER - Large scale cost-effective robotic production of advanced formwork
Hattel, J. H., Petkov, K. & Gravesen, J.  
01/03/2013 → 31/08/2016
Project

Topology optimization for additive manufacturing
01/03/2013 → 09/12/2016
Project: PhD

Autonomous optimization of flow, solidification and thermomechanical conditions in the high pressure die casting process
Li, S., Hattel, J. H., Spangenberg, J. & Tutum, C. C.  
15/09/2012 → 15/10/2016
Project: PhD

Modelling selective Laser Melting
01/05/2012 → 11/12/2015
Project: PhD

Modelling induction heating in the surface of injection moulding tools
01/04/2012 → 24/09/2015
Project: PhD
Improved design bases of welded joints in seawater
01/08/2011 → 01/09/2016
Project: PhD

Modeling of shape instabilities occurring during sintering
Tadesse Molla, T., Frandsen, H. L., Bjørk, R., Pryds, N., Hattel, J. H., Bordia, R. K. & Raether, F.
15/07/2011 → 30/09/2014
Project: PhD

Modelling the pultrusion process of off shore wind turbines blades
Baran, I., Hattel, J. H., Nielsen, P. H., Tutum, C. C., Nunes, J. P. L. G., Ersoy, N. & Lilleheden, L. T.
01/06/2011 → 25/08/2014
Project: PhD

Modelling the deformation process of flexible stamps for nanoimprint lithography
01/04/2011 → 03/12/2014
Project: PhD

Numerical modelling of defects distribution and residual stresses in forged components
Christiansen, P., Hattel, J. H., Bay, N. O., Thorborg, J., Lindgren, L. & Tekkaya, A. E.
15/02/2011 → 25/08/2014
Project: PhD

Numerical modelling of tape casting of functionally graded ceramic materials
Jabbaribehnam, M., Hattel, J. H., Pryds, N., Frandsen, H. L., Mitsoulis, E. & Tok, A.
01/02/2011 → 29/09/2014
Project: PhD

REWIND - Knowledge based engineering for improved reliability of critical wind turbine components
Hattel, J. H., Tvergaard, V., Somers, M. A. J., Faester, S., Natarajan, A. & Klit, P.
01/01/2011 → 31/12/2016
Project

Improvement of Feeder Technologies for Energy Savings in Cast Iron Foundries
Vedel-Smith, N. K., Tiedje, N. S., Hattel, J. H., Pedersen, K. M. & Sándor Diószegi, A.
01/01/2011 → 07/04/2016
Project: PhD

Numerical modelling of extrusion of functionally graded ceramic materials
01/01/2011 → 24/08/2015
Project: PhD

Modelling the effect of micro alloying elements in ductile cast iron
Moumeni, E., Hattel, J. H., Horsewell, A., Tiedje, N. S., Lacaze, J., Pedersen, K. M. & Tonn, B.
01/05/2010 → 30/09/2013
Project: PhD

Models for the energy performance of low-energy houses
Andersen, P. H. D., Madsen, H., Rode, C., Hattel, J. H., Heiselberg, P. & Roels, S.
01/05/2010 → 24/01/2014
Project: PhD
Scavenging and Swirling Flow in Two-Stroke Diesel Engines - A Numerical Study
01/05/2010 → 29/09/2016
Project: PhD

Integrated modelling of the glass moulding process
Sarhadi, A., Hattel, J. H., Hansen, H. N., Tutum, C. C., Thorborg, J., Yan, J. & Yi, A.
15/01/2010 → 29/09/2014
Project: PhD

Modeling the manufacturing process of wind turbine blades
Nielsen, M. W., Hattel, J. H., Legstrup Andersen, T., Branner, K., Nielsen, P. H., Thomsen, O. T., Svanberg, M. & Talreja, R.
01/01/2010 → 25/06/2013
Project: PhD

3-D Modelling and Testing of Contact Problems in Resistance Welding
01/10/2009 → 31/01/2013
Project: PhD

Numerisk modellering af formfyldning ved støbning i selvkompakterende beton
01/04/2009 → 24/08/2012
Project: PhD

Prediction of flow induced inhomogeneities in self compacting concrete
01/11/2008 → 31/10/2012
Project

Micro alloyed high strength net shape components
Tiedje, N. S., Hattel, J. H. & Horsewell, A.
01/01/2008 → 31/12/2010
Project

Integrated Modeling of Process, Structures and Performance in Cast Parts
Kotas, P., Hattel, J. H., Tiedje, N. S., Huff, R. K. & Schneider, M. C.
15/10/2007 → 01/06/2011
Project: PhD

Energy efficient and environmentally friendly cooling using magnetic refrigeration: Modeling of active magnetic regenerators for magnetic refrigeration at room temperature
Hattel, J. H.
01/09/2007 → 31/08/2010
Project

Modeling of Active Magnetic Regenerators for Magnetic Refrigeration at Room Temperature
01/09/2007 → 21/12/2010
Project: PhD

Modelling of Solidification and Interdiffusion in Lead Free Solder Materials
Nachiappan, V. C., Hattel, J. H., Hald, J., Kodentsov, A., Fredriksson, H. & Leisner, P.
01/09/2007 → 29/09/2010
Center for udfældning, modellering og karakterisering af højsmeltende blyfri mikrolod
Hansen, H. N., Hattel, J. H., Hald, J. & Somers, M. A. J.
01/01/2007 → 30/06/2010
Project

Modelling of Microstructure, Mechanical Properties and Structural Performance in Thin Walled Ductile Cast Iron
Pedersen, K. M., Hattel, J. H. & Tiedje, N. S.
01/07/2006 → 30/06/2008
Project

Thermomechanical Modelling and Optimization of Dynamic Process Conditions in Friction Stir Welding
01/07/2006 → 06/01/2010
Project: PhD

Tool Optimization for Welding Processes
Larsen, A. A., Stolpe, M., Hattel, J. H., Sigmund, O., Lindgren, L., Duysinx, P. & Lund, E.
15/06/2006 → 10/02/2010
Project: PhD

Innovative Joining Processes Applying Integrated Modelling
Hattel, J. H., Bay, N. O., Somers, M. A. J., Bendsøe, M. P. & Tvergaard, V.
01/01/2006 → 31/12/2009
Project

Rapid Prototyping by Asymmetric Single Point Incremental Forming of Sheet Metal
Skjødt, M., Bay, N. O., Lenau, T. A., Hattel, J. H., Bariani, P. F. & Danckert, J.
01/09/2005 → 19/12/2008
Project: PhD

Micro insert moulding
01/03/2005 → 29/08/2008
Project: PhD

IMPRESS, STVF research consortium
Hattel, J. H., Domkin, K., Hald, J., Somers, M. A. J. & Tiedje, N. S.
01/01/2004 → 01/12/2007
Project

Modellering af materialeflow i termomekaniske materialeprocesser
Gjesing, R., Hattel, J. H., Hansen, P. N., Fritsching, U. W. & Pryds, N.
15/11/2003 → 07/03/2008
Project: PhD

IDEAL: Integrated Development Routes for Optimised Cast Aluminium Components
Hattel, J. H., Bellini, A. & Thorborg, J.
01/09/2002 → 01/08/2005
Project

Numerical Modelling of Laser Beam welding of Aluminium Alloy-Steel Joints
Hattel, J. H. & Weiss, D.
01/09/2002 → 01/08/2004
Project
Modelling Material Flow in manufacturing Processes with Eulerian Methods
Hattel, J. H.
01/01/2002 → 30/08/2006
Project

Modelling Metal Forming Processes with a 3-D Eulerian Finite Volume Method
Hattel, J. H. & Li, Y.
01/01/2002 → 01/12/2005
Project

Strukturel optimering af støbtte emner med numerisk modellering
Andersen, M. N. & Hattel, J. H.
01/04/2001 → 01/04/2001
Project: PhD

Modelling Distortions of Large, Thinwalled Light Alloy Alloy Castings
Hattel, J. H. & Thorborg, J.
01/03/2001 → 01/03/2004
Project

Modellering af mekaniske og metallurgiske egenskaber ved "Friction Stir" svejste sammenfejninger
01/08/2000 → 25/08/2004
Project: PhD

Testing and modelling of material and contact properties in resistance welding
Song, Q., Bay, N. O., Zhang, W., Martins, P. A. F., Hattel, J. H. & Laursen, B.
01/04/2000 → 20/01/2004
Project: PhD

Development of an integrated numerical model for spray forming
Hattel, J. H. & Pedersen, T. B.
01/05/1999 → 01/02/2003
Project

Modelling of residual stresses in spray formed structures
01/05/1999 → 04/04/2003
Project: PhD

Numerical Modelling of Residual Stresses in Spray Forming
Hattel, J. H. & Pedersen, T. B.
01/05/1999 → 30/04/2002
Project

Development and Production of Flexible Vibration Transducers
Liu, B., Lenau, T. A., Hattel, J. H., Brincker, R. & Walter, P.
01/03/1998 → 31/01/2002
Project: PhD

Constitutive modelling at high temperatures
Hattel, J. H. & Thorborg, J.
01/02/1998 → 31/01/2001
Project
Numerisk modellering af konstitutive sammenhænge i termiske materialexprocesser
Thorborg, J., Hattel, J. H., Hansen, P. N., Cross, M. & Tvergaard, V.
01/02/1998 → 17/09/2001
Project: PhD

Numerical simulation of welding processes
Hattel, J. H. & Hansen, J. L.
01/09/1997 → 31/12/2000
Project

Numerisk modellering af termisk inducerede spændinger og deformationer ved svejsning
Hansen, J. L., Hattel, J. H., Jensen, J. J., Jensen, B. & Lindegren, L.
01/09/1997 → 23/10/2003
Project: PhD

Residualspændinger i varmvalseede plader
01/06/1997 → …
Project: PhD

Plate Forming by Line Heating
Clausen, H. B., Jensen, J. J., Hattel, J. H. & Sørensen, H.
01/02/1997 → 25/09/2000
Project: PhD

Termomekanisk processimulering
Frandsen, J. O. & Hattel, J. H.
01/10/1996 → 04/08/2004
Project: PhD

Thermomechanical process simulation
Hattel, J. H. & Frandsen, J. O.
01/10/1996 → 30/06/2000
Project

Simulering af svejsedeformationer i skibssektioner
Birk-Sørensen, M., Jensen, J. J., Kierkegaard, H. & Hattel, J. H.
01/02/1996 → …
Project: PhD

Porefrit aluminiumstøbegods fremstillet ved sandstøbning med vertikal skilleflade
Rasmussen, N. W., Hattel, J. H. & Hansen, P. N.
01/01/1995 → …
Project: PhD

Optimeret støberriteknik for SG-jern via computersimulering
Aagaard, R., Hattel, J. H., Bjørklund, B. I., Hansen, P. N. & Ottosen, P.
01/07/1994 → …
Project: PhD

MUP2 - Center for Structural Materials - MP2M - Materials processing, Properties and Modelling
01/05/1994 → 28/02/1999