Research outputs:

**Co-processing of wood and wheat straw derived pyrolysis oils with FCC feed—Product distribution and effect of deoxygenation**
Research output: Contribution to journal › Journal article – Annual report year: 2020 › Research › peer-review

**Adsorption and decomposition of tar model compounds over the surface of gasification char and active carbon within the temperature range 250-800 °C**
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

**Catalytic deoxygenation of vapors obtained from ablative fast pyrolysis of wheat straw using mesoporous HZSM-5**
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

**Deoxygenation of wheat straw fast pyrolysis vapors using HZSM-5, Al₂O₃, HZSM-5/Al₂O₃ extrudates, and desilicated HZSM-5/Al₂O₃ extrudates**
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

**Detailed modelling of biomass steam gasification in a dual fluidized bed gasifier with temperature variation**
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

**First injera baking biomass gasifier stove to reduce indoor air pollution, and fuel use**
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

**Flexible TwoStage biomass gasifier designs for polygeneration operation**
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

**From wood chips to pellets to milled pellets: The mechanical processing pathway of Austrian pine and European beech**
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

**Impact of ZSM-5 Deactivation on Bio-Oil Quality during Upgrading of Straw Derived Pyrolysis Vapors**
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

**Solid oxide fuel cell stack coupled with an oxygen-blown TwoStage gasifier using minimal gas cleaning**
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

**Activity of chars and activated carbons for removal and decomposition of tar model compounds – A review**
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review
A slurry drying plant, a method for drying slurry and use of a slurry drying plant
Research output: Patent › Patent – Annual report year: 2018 › Research

Characterization and assessment of PAH content in spent char to be used for soil amendment and carbon sequestration
Research output: Contribution to conference › Poster – Annual report year: 2018 › Research › peer-review

Combustion Behavior of Single Particles of Raw Wood and Pelletized Wood
Research output: Contribution to conference › Poster – Annual report year: 2018 › Research › peer-review

From Wood Chips to Pellets to Milled Pellets: the Mechanical Processing Pathway of Wood
Research output: Contribution to conference › Poster – Annual report year: 2018 › Research › peer-review

Optimizing catalytic tar-deoxygenation of fast pyrolysis vapors
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2018 › Research › peer-review

Oxygen-blown operation of the TwoStage Viking gasifier
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Performance of mesoporous ZSM-5 for the upgrading of straw derived pyrolysis vapors
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2018 › Research › peer-review

Performance of mesoporous ZSM-5 in deoxygenation of straw derived pyrolysis vapors
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2018 › Research › peer-review

Performance of mesoporous ZSM-5 in deoxygenation of straw derived pyrolysis vapors
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2018 › Research › peer-review

Residual Char from Gasification Integrated in a Tar Removal System
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2018 › Research › peer-review

Rural Electrification and Livelihood Generation for Women Enterprises in Rural India: Experience of Implementing Two-Stage Biomass Gasifiers
Research output: Chapter in Book/Report/Conference proceeding › Book chapter – Annual report year: 2018 › Research › peer-review

Wood Pellet Milling Performance in a Suspension-Fired Power Plant
Research output: Contribution to conference › Poster – Annual report year: 2018 › Research › peer-review

Wood pellet milling tests in a suspension-fired power plant
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Changes imposed by pyrolysis, thermal gasification and incineration on composition and phosphorus fertilizer quality of municipal sewage sludge
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Clean Cook Stove Technology for Artisanal Palm Oil Clarification and Biochar Production in Ghana
Research output: Contribution to conference › Paper – Annual report year: 2018 › Research
Integration of oxygen membranes for oxygen production in cement plants
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

Screening of various low-grade biomass materials for low temperature gasification: Method development and application
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

Trends in energy supply integration: Thermal and biological conversion of biomass and waste
Research output: Chapter in Book/Report/Conference proceeding › Book chapter – Annual report year: 2015 › Research › peer-review

Gas cleaning with hot char beds studied by stable isotopes
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Kinetic model for torrefaction of wood chips in a pilot-scale continuous reactor
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Biomass gasification cogeneration – A review of state of the art technology and near future perspectives
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Decentralized combined heat and power production by two-stage biomass gasification and solid oxide fuel cells
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Integration of mixed conducting membranes in an oxygen–steam biomass gasification process
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Intrinsic kinetics and devolatilization of wheat straw during torrefaction
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Lab and Bench-Scale Pelletization of Torrefied Wood Chips: Process Optimization and Pellet Quality
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

The influence of partial oxidation mechanisms on tar destruction in TwoStage biomass gasification
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Changes of chemical and mechanical behavior of torrefied wheat straw
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Energy efficiency improvements in energy supply and Industry
Research output: Chapter in Book/Report/Conference proceeding › Report chapter – Annual report year: 2012 › Research › peer-review

Fuel Pellets from Wheat Straw: The Effect of Lignin Glass Transition and Surface Waxes on Pelletizing Properties
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

Quality effects caused by torrefaction of pellets made from Scots pine
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Quality of pellets from torrefied biomass and pellets torrefied at different temperatures
Research output: Contribution to conference › Poster – Annual report year: 2012 › Research › peer-review
Recent Developments in Biomass Pelletization - A Review
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Soil application of ash produced by low-temperature fluidized bed gasification: effects on soil nutrient dynamics and crop response
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

A study of bonding and failure mechanisms in fuel pellets from different biomass resources
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

Fuel pellets from biomass: The importance of the pelletizing pressure and its dependency on the processing conditions
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

Fuel pellets from torrefied biomass
Research output: Contribution to conference › Poster – Annual report year: 2011 › Research

Fuel pellets from torrefied biomass
Research output: Contribution to conference › Poster – Annual report year: 2011 › Research

LT-CFB. Videreudvikling og kommercialisering: Slutrapport for PSO-ForskEl projekt nr. 2007-7504
Research output: Book/Report › Report – Annual report year: 2012 › Research

Optimization of a multi-parameter model for biomass pelletization to investigate temperature dependence and to facilitate fast testing of pelletization behavior
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

Pelletizing Properties of Torrefied Biomass
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2011 › Research

Pelletizing properties of torrefied spruce
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

Production of methanol/DME from biomass: EFP06
Research output: Book/Report › Report – Annual report year: 2011 › Research › peer-review

Thermal transitions of the amorphous polymers in wheat straw
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

Thermodynamic analysis of small-scale dimethyl ether (DME) and methanol plants based on the efficient two-stage gasifier
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

Binding mechanisms in fuel pellets made from biomass
Research output: Contribution to conference › Poster – Annual report year: 2010 › Research

Bioenergy
Research output: Chapter in Book/Report/Conference proceeding › Report chapter – Annual report year: 2010 › Research › peer-review

Development and Test of a new Concept for Biomass Producer Gas Engines
Research output: Book/Report › Report – Annual report year: 2010 › Research
On the significance of methyl chloride in gasification processes
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2010 › Research › peer-review

Char reactivity of different kind of BIOMASS pellets under overheated steam gasification conditions
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2008 › Research

Fundamental understanding of pelletization: EFP-2005 project (33031-037). Summary report
Research output: Book/Report › Report – Annual report year: 2008 › Research

Experimental Verification of Novel Pellet Model Using a Single Pelleter Unit
Research output: Contribution to journal › Journal article – Annual report year: 2007 › Research › peer-review

High temperature electrolyte supported Ni-GDC/YSZ/LSM SOFC operation on two-stage Viking gasifier product gas
Research output: Contribution to journal › Journal article – Annual report year: 2007 › Research › peer-review

Numerical investigation of the partial oxidation in a two-stage downdraft gasifier
Research output: Contribution to journal › Journal article – Annual report year: 2007 › Research › peer-review

Come Giungere ad una comprensione basilare del processo de pellettizzazione
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research

Devolatilization characteristics of large particles of tyre rubber under combustion conditions
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review

Flash Pyrolysis of Additivated Biomass
Research output: Book/Report › Report – Annual report year: 2006 › Research

Investigation of the Anisotropic Behavior of Wood Char Particles during Gasification
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review

The design, construction and operation of a 75kW two-stage gasifier
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review

The development of a computer model for a fixed bed gasifier and its use for optimization and control
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review

The influence of Corrosion and sintering reducing additives on volatile release, char conversion, char reactivity and ignition properties of biomass dust
Research output: Book/Report › Report – Annual report year: 2006 › Research

The Influence of Sulfur on Natural Gas Combustion
Research output: Contribution to conference › Poster – Annual report year: 2006 › Research

Toward an Understanding of Controlling Parameters in Softwood and hardwood Pellets Production
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review

Validation of Continuous CHP Operation of a Two-Stage Biomass Gasifier
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review
Afklaring af LT-CFB forgasser til kraftværksmæssig anvendelse, samt bygning af 500 kW anlæg
Research output: Book/Report › Report – Annual report year: 2005 › Communication

Experimental characterisation of residual-tar in wood char
Research output: Book/Report › Report – Annual report year: 2005 › Research

Formation, Decomposition and Cracking of Biomass Tars in Gasification
Research output: Book/Report › Report – Annual report year: 2005 › Research

Fundamentals of biomass pellet production
Research output: Contribution to conference › Poster – Annual report year: 2005 › Research

Fundamentals of Biomass pellet production
Research output: Book/Report › Report – Annual report year: 2005 › Research

Investigation of Continuous Gas Engine CHP Operation on Biomass Producer Gas
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review

Investigation of Continuous Gas Engine CHP Operation on Biomass Producer Gas
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2005 › Research › peer-review

Langtidsforsøg med totrinsforgasseren "Viking"
Research output: Book/Report › Report – Annual report year: 2005 › Research

Pyrolysis of Pine Wood: Experiments and Theory
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2005 › Research

Pyrolysis of Pine Wood, Experiments and Theory
Research output: Contribution to conference › Poster – Annual report year: 2005 › Research

Pyrolysis of thermally thick wood particles – experiments and mathematical modelling
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2005 › Research › peer-review

Termisk forgasning af biomasse: Sammenfatning af aktiviteter på DTU

The LT-CFB gasifier: First test results from the 500 kW test plant
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2005 › Research › peer-review

THE LT-CFB GASIFIER – FIRST TEST RESULTS FROM THE 500 KW TEST PLANT
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2005 › Research

The thermal history of char as disclosed by carbon isotope ratios
Research output: Contribution to conference › Poster – Annual report year: 2005 › Research

Time resolved pyrolysis of char
Research output: Contribution to conference › Poster – Annual report year: 2005 › Research
Static modelling and analysis of updraft gasifier for 35 kWel Stirling engine
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2001 › Research › peer-review

Tjæremlægning på twotrisforgasser uge 47 - 1999: Afprøvning af SPA-metoden
Research output: Book/Report › Report – Annual report year: 2001 › Research

An Evaluation of Char Reactivity and Ash Properties in Biomass Gasification: Fundamental Processes in Biomass Gasification
Research output: Book/Report › Report – Annual report year: 2000 › Research

Condensate from a two-stage gasifier
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2000 › Research › peer-review

Decomposition of tar in gas from updraft gasifier by thermal cracking
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2000 › Research › peer-review

Dynamic modelling of char gasification in a fixed-bed
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2000 › Research › peer-review

Evaluation of Gravimetric Tar Determination in Particle Samples
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2000 › Research

Experimentals on Wood Gas Engine
Research output: Book/Report › Report – Annual report year: 2000 › Research

Ford VSG 411 fueled by producer gas from a two-stage gasifier
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2000 › Research › peer-review

High tar reduction in a two-stage gasifier
Research output: Contribution to journal › Journal article – Annual report year: 2000 › Research › peer-review

Low tar and high efficient gasification concept
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2000 › Research › peer-review

Low temperature CFB gasifier conceptual ideas, applications and first test results
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2000 › Research › peer-review

Medium and large-scale low tar and high efficient gasification
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2000 › Research › peer-review

Modelling a biomass gasification system by means of EES
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2000 › Research › peer-review
Optimized two-stage gasifier
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2000 › Research › peer-review

Physical and chemical characterization of particles in producer gas
Research output: Contribution to journal › Journal article – Annual report year: 2000 › Research › peer-review

Steam gasification of wood char and the effect of hydrogen inhibition on the chemical kinetics
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2000 › Research › peer-review

The Pinch-method Applied on a Biomass Gasifier System
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2000 › Research › peer-review

Dynamic Modelling of the Two-stage Gasification Process
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 1999 › Research › peer-review

Ford VSG 411 Fuelled by Producer Gas from a Two-stage Gasifier
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 1999 › Research › peer-review

Investigation of a Two-Stage Gasifier
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 1999 › Research

Low Temperature CFB Gasifier. Conceptual Ideas and Applications
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 1999 › Research › peer-review

Optimering af 100 kW totinsforgasningsanlæg på DTU: Resultater fra forsøg i uge 37 1998
Research output: Book/Report › Report – Annual report year: 1999 › Research

Totinsforgasning, uge 47 1999: Forsøgsforløb, kondensat, tryktab over koksbed
Research output: Book/Report › Report – Annual report year: 2001 › Research

Trykfald over en bed af fliskoks
Research output: Book/Report › Report – Annual report year: 1999 › Research › peer-review

100 kW totinsforgasningsanlæg på DTU: Resultater til og med foråret 1998
Research output: Book/Report › Report – Annual report year: 1998 › Research › peer-review

100kW totinsforgasningsanlæg på DTU. Resultater til og med foråret 1998.
Research output: Book/Report › Book – Annual report year: 1998 › Research › peer-review

400 kW totins forgasningsanlægget i Års
Research output: Book/Report › Report – Annual report year: 1998 › Research › peer-review

Decomposition of tar in pyrolysis gas by partial oxidation and thermal cracking: Part 2
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 1998 › Research
Theoretical and Experimental Investigation on Heat Transfer in Fixed Char Beds
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 1996 › Research › peer-review

Two-Stage Fluid Bed Pyrolysis and Gasification Unit
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 1996 › Research

Projects:

Termisk forgasning af biomasse Sammenfatning af aktiviteter på DTU
Project: PhD

Use of Zeolites for Tar De-Oxygenation
Project: PhD

Kokspartiklers nedbrydning under termisk omsætning
Project: PhD

Motordrift på forgasningssgas
Project: PhD

Oxygen Blown Biomass Gasification
Project: PhD

Biomass Particle Morphology and Combustion Properties
Project: PhD

Investigation of oxygen-blown biomass gasification
Project: PhD

Optimering af biomasse forgasningskoncept til effektiv storsskala elfremstilling
Project: PhD

Design and Optimization of an Integrated Biomass Gasification and Solid Oxide Fuel Cell System
Project: PhD

Low Temperature Thermal Gasification of High-Alkali Bio Residues and Sludge
Project: PhD

Upgrading Fuel Properties of Biomass Fuel and Waste by Torrefaction
Project: PhD

Biomass and Coal Gasification in entrained-flow reactor
Project: PhD

Fundamental Understanding of Biomass Pelletization
Project: PhD

Gas-Solid reactions and reactor systems
Project: PhD
Ash Chemistry in Circulating Fluidized Bed  
Project: PhD

Power plant burners for biodust combustion  
Project: PhD

BioSOFC - 3rd Generation Biomass Based Combined Heat and Power (CHP)  
Project: Research

Alternative Additiver  
Project: Research

Thermonet EU  
Project: Research

Teri technology development India  
Project: Research

Model af traditionel medstrømsforgasser  
Project: Research

Modelling a Traditional Down Draft Gasifier  
Project: Research

Gasification of Straw in a Two-Stage Gasifier  
Project: Research

Gasification of Straw  
Project: Research

Indpasning af totrinsforgasser i et energisystem  
Project: Research

Biostøvning  
Project: Research

Udvikling og afprøvning af motorkoncept optimeret til motordrift på forgasningsgas  
Project: Research

Pyrotar  
Project: Research

Modellering af trinopdelt forgasning EFP-2001  
Project: Research

Modellering af modstrømsfargasser EFP 2001  
Project: Research

Langtidsundersøgelser af totrinsfargasser  
Project: Research
BIOCELLUS
Project: Research

Activities:

Characterization and assessment of PAH content in spent char to be used for soil amendment and carbon sequestration
Activity: Talks and presentations › Conference presentations

Characterization of char from wood gasification
Activity: Talks and presentations › Conference presentations

Residual char from gasification integrated in a tar removal system
Activity: Talks and presentations › Conference presentations

Pelletization of torrefied biomass: a modelling approach
Activity: Talks and presentations › Conference presentations