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CHEC Research Centre
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Profile

Senior Researcher at DTU Chemical and Biochemical Engineering - CHEC Center for Combustion and Harmful Emission Control

Qualifications

Biomass and Biorefinery, Ph.D., Biomass pelletization , Technical University of Denmark
2008 → 2011
Award Date: 1 Nov 2011

Biochemistry and Process Engineering, Master of Science (M.Sc.), Leibniz University Hannover
2000 → 2005
Award Date: 1 Oct 2005

Biochemistry and Life Science, Bachelor of Science (B.Sc.), Leibniz University Hannover
2000 → 2005
Award Date: 1 Oct 2003

Employment

Senior Researcher
Department of Chemical and Biochemical Engineering
Technical University of Denmark
Kgs. Lyngby, Denmark
15 Dec 2011 → present

Senior Researcher
CHEC Research Centre
Technical University of Denmark
Kgs. Lyngby, Denmark
26 Oct 2023 → present

Projectmanager
Danish Technological Institute
Tårstrup, Denmark
1 Jan 2012 → 1 Jan 2018

Visiting Scholar
United States Department of Agriculture
United States
1 Jan 2010 → 1 Jan 2010

Reserach Engineer
Luleå University of Technology
Sweden

1 Jan 2007 → 1 Jan 2008

Development Engineer

Danisco AS

Denmark

1 Jan 2005 → 1 Jan 2007

Research outputs

Effect of the Characteristics of Maleic Anhydride-Grafted Polypropylene (MAPP) Compatibilizer on the Properties of Highly Filled (85%) Kenaf-Polypropylene Composites

Sanadi, A. R. & Stelte, W., 2023, In: Materials Research. 26, 6 p., e20220428.

Coir Fibers as Valuable Raw Material for Biofuel Pellet Production

Stelte, W., Barsberg, S. T., Clemons, C., Morais, JPS., de Freitas Rosa, M. & Sanadi, A. R., 2019, In: Waste and Biomass Valorization. 10, 11, p. 3535–3543

Determination of off-gassing and self-heating potential of wood pellets – Method comparison and correlation analysis

Sedlmayer, I., Arshadi, M., Haslinger, W., Hofbauer, H., Larsson, I., Lönnermark, A., Nilsson, C., Pollex, A., Schmidl, C., Stelte, W., Wopienka, E. & Bauer-Emhofer, W., 2018, In: Fuel. 234, p. 894–903

Cross-Linked Amylose Bio-Plastic: A Transgenic-Based Compostable Plastic Alternative: a transgenic-based compostable plastic alternative

Sagnelli, D., Hooshmand, K., Kemmer, G. C., Kirkensgaard, J. J. K., Mortensen, K., Giosafatto, C. V. L., Holse, M., Hebelstrup, K. H., Bao, J., Stelte, W., Bjerre, A-B. & Blennow, A., 2017, In: International Journal of Molecular Sciences . 18, 10, 12 p., 2075.

Semi-continous anaerobic co-digestion of cow manure and banana waste: effects of mixture ratio

Joute, Y., El Bari, H., Belhadj, S., Karouach, F., Gradi, Y., Stelte, W. & Bjerre, A. B., 2016, In: Applied Ecology and Environmental Research. 14, 2, p. 337-349

Process optimization of combined biomass torrefaction and pelletization for fuel pellet production - A parametric study

Rudolfsson, M., Stelte, W. & Lestander, T. A., 2015, In: Applied Energy. 140, p. 378-384

Kinetic model for torrefaction of wood chips in a pilot-scale continuous reactor

Shang, L., Ahrenfeldt, J., Holm, J. K., Bach, L. S., Stelte, W. & Henriksen, U. B., 2014, In: Journal of Analytical and Applied Pyrolysis. 108, p. 109-116

Lab and Bench-Scale Pelletization of Torrefied Wood Chips: Process Optimization and Pellet Quality

Shang, L., Nielsen, N. P. K., Stelte, W., Dahl, J., Ahrenfeldt, J., Holm, J. K., Puig Arnavat, M., Bach, L. S. & Henriksen, U. B., 2013, In: BioEnergy Research. 7, 1, p. 87-94

Pelletizing properties of torrefied wheat straw

Stelte, W., Nielsen, N. P., Hansen, H. O., Dahl, J., Shang, L. & Sanadi, A. R., 2013, In: Biomass & Bioenergy. 49, p. 214-221

The influence of partial oxidation mechanisms on tar destruction in TwoStage biomass gasification

Ahrenfeldt, J., Egsgaard, H., Stelte, W., Thomsen, T. & Henriksen, U. B., 2013, In: Fuel. 112, p. 662-680

Changes of chemical and mechanical behavior of torrefied wheat straw

Shang, L., Ahrenfeldt, J., Holm, J. K., Sanadi, A. R., Barsberg, S. T., Thomsen, T., Stelte, W. & Henriksen, U. B., 2012, In: Biomass & Bioenergy. 40, p. 63-70

Fuel Pellets from Wheat Straw: The Effect of Lignin Glass Transition and Surface Waxes on Pelletizing Properties
Stelte, W., Clemons, C., Holm, J. K., Ahrenfeldt, J., Henriksen, U. B. & Sanadi, A. R., 2012, In: BioEnergy Research. 5, p. 450-458

Quality effects caused by torrefaction of pellets made from Scots pine
Shang, L., Nielsen, N. P. K., Dahl, J., Stelte, W., Ahrenfeldt, J., Holm, J. K., Thomsen, T. & Henriksen, U. B., 2012, In: Fuel Processing Technology. 101, p. 23-28

Recent Developments in Biomass Pelletization - A Review
Stelte, W., Sanadi, A. R., Shang, L., Holm, J. K., Ahrenfeldt, J. & Henriksen, U. B., 2012, In: BioResources. 7, 3, p. 4451-4490

A study of bonding and failure mechanisms in fuel pellets from different biomass resources
Stelte, W., Holm, J. K., Sanadi, A. R., Barsberg, S., Ahrenfeldt, J. & Henriksen, U. B., 2011, In: Biomass & Bioenergy. 35, 2, p. 910-918

Fuel pellets from biomass: The importance of the pelletizing pressure and its dependency on the processing conditions
Stelte, W., Holm, J. K., Sanadi, A. R., Barsberg, S., Ahrenfeldt, J. & Henriksen, U. B., 2011, In: Fuel. 90, 11, p. 3285-3290

Optimization of a multi-parameter model for biomass pelletization to investigate temperature dependence and to facilitate fast testing of pelletization behavior
Holm, J. K., Stelte, W., Posselt, D., Ahrenfeldt, J. & Henriksen, U. B., 2011, In: Energy & Fuels. 25, 8, p. 3706-3711

Pelletizing properties of torrefied spruce
Stelte, W., Clemons, C., Holm, J. K., Sanadi, A. R., Ahrenfeldt, J., Shang, L. & Henriksen, U. B., 2011, In: Biomass & Bioenergy. 35, 11, p. 4690-4698

Thermal transitions of the amorphous polymers in wheat straw
Stelte, W., Clemons, C., Holm, J. K., Ahrenfeldt, J., Henriksen, U. B. & Sanadi, A. R., 2011, In: Industrial Crops and Products. 34, 1, p. 1053-1056

Preparation and Characterization of Cellulose Nanofibers from Two Commercial Hardwood and Softwood Pulps
Stelte, W. & Sanadi, A. R., 2009, In: Industrial & Engineering Chemistry Research. 48, 24, p. 11211-11219

Prizes

DTU Young Research Award 2012
Stelte, Wolfgang (Recipient), 2012