



Ansættelse

Bioenergy and Bioproducts

Det Ingeniør- og Naturvidenskabelige Fakultet

Esbjerg, Danmark

1 jan. 2021 → present

Publikationer

Seasonal chemical variations of South Denmark's organic municipal waste and its estimated bioenergy potential

Rudnyckij, S., Kucheryavskiy, S., Spedtsberg, E. M. L., Chaturvedi, T. & Thomsen, M. H., mar. 2025, I: Biomass & Bioenergy. 194, 107659.

Applicability of yeast extract in Postgate culture medium for microbiologically influenced corrosion (MIC) tests

Stein, J. L., Chaturvedi, T., Skovhus, T. L. & Thomsen, M. H., 2025, I: Corrosion. 81, 1, s. 48-57

Microbial biomass production from enzymatically saccharified organic municipal waste and present microbial inhibitors

Rudnyckij, S., Chaturvedi, T. & Thomsen, M. H., 2025, (E-pub ahead of print) I: Biomass Conversion and Biorefinery.

Optimized isolation of phenolic compounds from aqueous extract of the halophyte *Salicornia ramosissima*

Fredsgaard, M., Tchoumtchoua, J., Kohnen, S., Chaturvedi, T. & Thomsen, M. H., 2025, (Afsendt).

Understanding and Modeling Corrosion in CO₂ Transportation Pipelines: Findings from the Carbon Adapt Project

Chaturvedi, T., Hansen, D. S., Ostadi, M. & Pedersen, S., 2025, (Accepteret/In press) *AIChE Annual Meeting*. American Institute of Chemical Engineers (AIChE)

Organic waste and beechwood cellulose blend saccharification and validation of hydrolysates by fermentation

Rudnyckij, S., Kucheryavskiy, S., Chaturvedi, T. & Thomsen, M. H., 14 nov. 2024, I: Applied Microbiology and Biotechnology. 108, 517.

Isolation of Polyphenols from Aqueous Extract of the Halophyte *Salicornia ramosissima*

Fredsgaard, M., Tchoumtchoua, J., Kohnen, S., Chaturvedi, T. & Thomsen, M. H., jan. 2024, I: Molecules. 29, 1, 220.

Protein production from halophyte juice via lactic acid bacteria acidification and subsequent yeast fermentation

Rudnyckij, S., Hulkko, L. S. S., Chaturvedi, T. & Thomsen, M. H., 2024.

MIC mitigation comparison of Halophyte-extract against THPS and Glutaraldehyde: A benchmarking experiment

Stein, J. L., Chaturvedi, T., Skovhus, T. L. & Thomsen, M. H., 14 nov. 2023. 1 s.

Low-dosage enzymatic hydrolysis of organic municipal waste for sugar and ethanol production

Rudnyckij, S., Chaturvedi, T. & Thomsen, M. H., 12 sep. 2023, I: Biomass Conversion and Biorefinery.

Phenolic Compounds in *Salicornia* spp. and Their Potential Therapeutic Effects on H1N1, HBV, HCV, and HIV: A Review

Fredsgaard, M., Kaniki, S. E. K., Antonopoulou, I., Chaturvedi, T. & Thomsen, M. H., 10 jul. 2023, I: Molecules. 28, 14, 5312.

Harnessing the Value of *Tripolium pannonicum* and *Crithmum maritimum* Halophyte Biomass through Integrated Green Biorefinery

Hulkko, L. S. S., Chaturvedi, T., Custódio, L. & Thomsen, M. H., jul. 2023, I: *Marine Drugs*. 21, 7, 380.

Halophyte Extract-based Biocide vs. Conventional Biocides: A benchmarking experiment

Stein, J. L., Chaturvedi, T., Skovhus, T. L. & Thomsen, M. H., 12 maj 2023. 1 s.

Bioactive Extracts from *Salicornia ramosissima* J. Woods Biorefinery as a Source of Ingredients for High-Value Industries

Hulkko, L. S. S., Rocha, R. M., Trentin, R., Fredsgaard, M., Chaturvedi, T., Custódio, L. & Thomsen, M. H., 9 mar. 2023, I: *Plants*. 12, 6, 1251.

Low-Dosage Enzymatic Decomposition of OFMSW for Sugar Recovery and Ethanol Production

Rudnyckyj, S., Chaturvedi, T. & Thomsen, M. H., 2023. 1 s.

UPCYCLING OF MUNICIPAL SOLID WASTE WITH *HERMETIA ILLUCENS* (L.)

Chaturvedi, T., Schou, T. M., Nøhr, M., Rudnyckyj, S. & Thomsen, M. H., 2023, I: *European Biomass Conference and Exhibition Proceedings*. s. 186-189 4 s.

Cultivation and characterisation of *Salicornia europaea*, *Tripolium pannonicum* and *Crithmum maritimum* biomass for green biorefinery applications

Hulkko, L. S. S., Turcios, A. E., Kohnen, S., Chaturvedi, T., Papenbrock, J. & Thomsen, M. H., dec. 2022, I: *Scientific Reports*. 12, 1, 20507.

Importance of the Multiple Lines of Evidence (MLOE) approach in Diagnosing Microbiologically Influenced Corrosion (MIC)

Stein, J. L., Chaturvedi, T., Skovhus, T. & Thomsen, M. H., 29 nov. 2022.

Biohydrogen Production in Microbial Electrolysis Cells Utilizing Organic Residue Feedstock: A Review

Jensen, L. S., Kaul, C., Juncker, N. B., Thomsen, M. H. & Chaturvedi, T., nov. 2022, I: *Energies*. 15, 22, 8396.

Valorisation of *Salicornia* Waste Biomass Through Green Biorefinery

Hulkko, L. S. S., Chaturvedi, T. & Thomsen, M. H., nov. 2022.

Extraction, Isolation, and Purification of Value-Added Chemicals from Lignocellulosic Biomass

Chaturvedi, T., Hulkko, L. S. S., Fredsgaard, M. & Thomsen, M. H., sep. 2022, I: *Processes*. 10, 9, 1752.

Investigation and optimization of heat and enzymatic pretreatments of OFMSW and its combination with cellulose

Rudnyckyj, S., Chaturvedi, T. & Thomsen, M. H., sep. 2022.

Optimization of enzymatic hydrolysis for utilization of food waste

Krail, L., Chaturvedi, T., Spedtsberg, E. M. L., Stein, J. L. & Thomsen, M. H., 31 aug. 2022.

Optimization of Extraction Conditions for Production of Halophyte-based Biocides for Microbiologically Influenced Corrosion (MIC) Mitigation

Stein, J. L., Chaturvedi, T., Skovhus, T. L. & Thomsen, M. H., 30 aug. 2022.

Clean Biocide Project: Halophyte Extracts as Natural Corrosion Inhibitors in Water Systems

Stein, J. L., Chaturvedi, T., Skovhus, T. L. & Thomsen, M. H., 26 aug. 2022.

Bioactive extracts from *Salicornia ramosissima*, *Tripolium pannonicum* and *Crithmum maritimum* as value-added products in halophyte-based biorefinery

Hulkko, L. S. S., Chaturvedi, T., Custódio, L. & Thomsen, M. H., 1 jun. 2022.

Purification and Isolation of Phenolic Compounds from the Extract of Salicornia Ramosissima

Fredsgaard, M., Kohnen, S., Chaturvedi, T. & Thomsen, M. H., 12 maj 2022.

Extraction of bioactive phenolic and antioxidant compounds from lignified Salicornia ramosissima

Fredsgaard, M., Chaturvedi, T. & Thomsen, M. H., 11 apr. 2022.

Effect of Antimicrobial Halophilic Plant Extracts on Microbiologically Influenced Corrosion (MIC)

Stein, J. L., Chaturvedi, T., Skovhus, T. L. & Thomsen, M. H., mar. 2022. 15 s.

Extraction and Quantification of Chlorophylls, Carotenoids, Phenolic Compounds, and Vitamins from Halophyte Biomasses

Hulkko, L. S. S., Chaturvedi, T. & Thomsen, M. H., 14 jan. 2022, I: Applied Sciences (Switzerland). 12, 2, 17 s., 840.

Clean Biocide Project: Natural Corrosion Inhibitors Halophilic Plant Extracts for Biofilm Mitigation

Stein, J. L., Chaturvedi, T., Skovhus, T. L. & Thomsen, M. H., 2021.

Halophilic Plant Extracts for Prevention of Microbiologically Influenced Corrosion (MIC)

Chaturvedi, T., Stein, J. L., Skovhus, T. L. & Thomsen, M. H., 2021, s. 20.

Process simulation and techno-economic assessment of Salicornia sp. based jet fuel refinery through Hermetia illucens sugars-to-lipids conversion and HEFA route

Fredsgaard, M., Hulkko, L. S. S., Chaturvedi, T. & Thomsen, M. H., 2021, I: Biomass & Bioenergy. 150, 106142.

Salicornia Species: Current Status and Future Potential

Chaturvedi, T., Christiansen, A. H. C., Gołębiewska, I. & Thomsen, M. H., 2021, *Future of Sustainable Agriculture in Saline Environments*. 22 s.

The Clean Biocide Project Halophilic plant extracts for prevention of microbiologically influenced corrosion (MIC)

Stein, J. L., Chaturvedi, T., Thomsen, M. H. & Skovhus, T. L., 2021.

Developing process designs for biorefineries-definitions, categories, and unit operations

Chaturvedi, T., Torres, A. I., Stephanopoulos, G., Thomsen, M. H. & Schmidt, J. E., mar. 2020, I: Energies. 13, 6, 1493.

Effect of Halophyte Extract on Sulphate reducing prokaryotes

Chaturvedi, T. (Opfinder), Thomsen, M. H. (Opfinder) & Skovhus, T. (Opfinder), 2020, (Under udarbejdelse)

Low-Temperature Pretreatment of Lignocellulosic Biomass for Enhanced Biogas Production

Casaretto, R., Agdal, E. B. L., Cayenne, A., Chaturvedi, T. & Holm-Nielsen, J. B., nov. 2019, I: Chemical Engineering and Technology. 42, 12, s. 2565-2573 9 s.

Bioethanol potential of raw and hydrothermally pretreated banana bulbs biomass in simultaneous saccharification and fermentation process with Saccharomyces cerevisiae

Awedem Wobiwo, F., Chaturvedi, T., Boda, M., Fokou, E., Emaga, T. H., Cybulska, I., Deleu, M., Gerin, P. A. & Thomsen, M. H., sep. 2019, I: Biomass Conversion and Biorefinery. 9, 3, s. 553-563 11 s.

Evaluation of marine Synechococcus for an algal biorefinery in arid regions

Bochenski, T., Chaturvedi, T., Thomsen, M. H. & Schmidt, J. E., jun. 2019, I: Energies. 12, 12, 13 s., 2233.

Investigation of natural antimicrobial compounds for prevention of microbiologically influenced corrosion (MIC)

Chaturvedi, T., Skovhus, T. & Thomsen, M. H., jun. 2019.

Fermentation of Municipal Solid Waste to Lactic Acid using *Lactobacillus Salivarius*

Chaturvedi, T., Bassan, A. & Thomsen, M. H., maj 2019.

Lignocellulosic Thermochemical Pretreatment Processes

Cybulska, I., Chaturvedi, T. & Thomsen, M. H., apr. 2019, *Biorefinery: Integrated Sustainable Processes for Biomass Conversion to Biomaterials, Biofuels, and Fertilizers*. Bastidas-Oyanedel, J.-R. & Schmidt, J. E. (red.). Cham: Springer Publishing Company, s. 153-165 13 s.

Investigation of microbial souring mechanisms and test of natural antibiotics for MIC prevention

Chaturvedi, T., Skovhus, T. L. & Thomsen, M. H., 5 nov. 2018.

Hydrothermal pretreatment: Process modeling and economic assessment within the framework of biorefinery processes

Torres, A. I., Ashraf, M. T., Chaturvedi, T., Schmidt, J. E. & Stephanopoulos, G., 1 jun. 2017, *Hydrothermal Processing in Biorefineries: Production of Bioethanol and High Added-Value Compounds of Second and Third Generation Biomass*. Springer, s. 207-235 29 s.

Estimation of bioenergy potential for local biomass in the United Arab Emirates

Ashraf, M. T., Fang, C., Bochenski, T., Cybulska, I., Alassali, A., Sowunmi, A., Farzanah, R., Brudecki, G. P., Chaturvedi, T., Haris, S., Schmidt, J. E. & Thomsen, M. H., 17 jan. 2016, I: *Emirates Journal of Food and Agriculture*. 28, 2, s. 99-106 8 s.

Exploring Opportunities for the Production of Chemicals from Municipal Solid Wastes within the Framework of a Biorefinery

Bonk, F., Chaturvedi, T., Torres, A. I., Schmidt, J. E., Thomsen, M. H. & Stephanopoulos, G., 1 jan. 2015, I: *Computer Aided Chemical Engineering*. 37, s. 2123-2128 6 s.

Characterization of the chemical composition of the halophyte *salicornia bigelovii* under cultivation

Cybulska, I., Chaturvedi, T., Alassali, A., Brudecki, G. P., Brown, J. J., Sgouridis, S. & Thomsen, M. H., 19 jun. 2014, I: *Energy and Fuels*. 28, 6, s. 3873-3883 11 s.

Chemical characterization and hydrothermal pretreatment of *Salicornia bigelovii* straw for enhanced enzymatic hydrolysis and bioethanol potential

Cybulska, I., Chaturvedi, T., Brudecki, G. P., Kádár, Z., Meyer, A. S., Baldwin, R. M. & Thomsen, M. H., 2014, I: *Bioresource Technology*. 153, s. 165-172 8 s.

Halophytes for the production of liquid biofuels

Brown, J. J., Cybulska, I., Chaturvedi, T. & Thomsen, M. H., 2014, *Sabkha Ecosystems: Volume IV: Cash Crop Halophyte and Biodiversity Conservation*. Dordrecht: Springer, s. 67-72 6 s. (Tasks for Vegetation Science, Bind 47).

Aktiviteter

Halophyte-Based Green Biorefinery: Potential Biomass Feedstocks And Processing Routes

Hulkko, L. S. S. (Oplægsholder), Turcios, A. (Andet), Chaturvedi, T. (Andet), Papenbrock, J. (Andet) & Thomsen, M. H. (Andet)
10 maj 2022

Climathon - Climate Hackathon

Chaturvedi, T. (Arrangør)
25 okt. 2019

Halophytes based aquaponic system for a biorefinery

Chaturvedi, T. (Foredragsholder)
23 sep. 2019 → 25 sep. 2019

Saline plant molecular factory for production of pharmaceuticals, functional feed, and biofuels using biorefinery technologies

Chaturvedi, T. (Foredragsholder)
10 sep. 2019 → 13 sep. 2019

Investigation of microbial souring mechanisms and testing natural antibiotics for prevention of microbiologically influenced corrosion (MIC)

Chaturvedi, T. (Foredragsholder), Skovhus, T. L. (Foredragsholder) & Thomsen, M. H. (Foredragsholder)
10 jan. 2019

Projekter

Algae derived biomass for anti-fouling coatings

Chaturvedi, T. (PI (principal investigator)), Skovhus, T. (CoPI) & Thomsen, M. H. (PI (principal investigator))
01/11/2018 → 31/01/2019

EXTRACTION OF VALUE-ADDED COMPOUNDS FROM GREEN FRACTIONATED HALOPHYTE BIOMASS

Hulkko, L. S. S. (PI (principal investigator)), Thomsen, M. H. (Supervisor) & Chaturvedi, T. (Supervisor)
15/07/2020 → 07/02/2024

FLEXI-GREEN FUELS: Flexible and resilient integrated biofuel processes for competitive production of green renewable jet and shipping fuels

Thomsen, M. H. (CoPI), Chaturvedi, T. (Projektdeltager), Rudnyckyj, S. (Projektdeltager), Kaniki, S. E. K. (Projektdeltager), Spedtsberg, E. M. L. (Projektdeltager), Nielsen, L. (Projektdeltager), Alonso, D. L. (Projektdeltager), Sørensen, J. L. (Projektdeltager) & Christensen, M. D. (Projektkoordinator)
European Commission
01/01/2021 → 31/12/2023

Halophilic Plant Extracts as Natural Corrosion Inhibitors and Biocides for Oil Field Application

Thomsen, M. H. (PI (principal investigator)), Chaturvedi, T. (Col (co-investigator)), Skovhus, T. L. (Col (co-investigator)), Stein, J. L. (Projektdeltager), Fredsgaard, M. (Projektdeltager) & Christensen, M. D. (Projektkoordinator)
The Danish Hydrocarbon Research and Technology Centre
01/09/2020 → 31/08/2021

Improving GreenN Innovation for the blue revolution: new tools and opportunities for a more sustainable animal farming

Thomsen, M. H. (PI (principal investigator)), Chaturvedi, T. (Projektdeltager), Rudnyckyj, S. (Projektdeltager) & Christensen, M. D. (Projektkoordinator)
European Commission
01/11/2022 → 31/10/2026

INBIOM – Innovationsnetværket for Bioressourcer

Holm-Nielsen, J. B. (PI (principal investigator)), Chaturvedi, T. (Projektdeltager), Agdal, E. B. L. (Projektdeltager), Thomsen, M. H. (Projektdeltager) & Miltersen, A. H. (Projektkoordinator)
Uddannelses- og Forskningsministeriet
01/12/2018 → 31/12/2020

AQUACOMBINE: Integrated on-farm Aquaponics systems for co-production of fish, halophyte vegetables, bioactive compounds, and bioenergy

Thomsen, M. H. (PI (principal investigator)), Holmene, C. F. (Projektleder), Chaturvedi, T. (Col (co-investigator)), Steensballe, A. (Projektdeltager), Fredsgaard, M. (Projektdeltager) & Hulkko, L. S. S. (Projektdeltager)
01/10/2019 → 31/12/2023

AQUACOMBINE: Integrated on-farm Aquaponics systems for co-production of fish, halophyte vegetables, bioactive compounds, and bioenergy

Thomsen, M. H. (PI (principal investigator)), Chaturvedi, T. (Projektdeltager), Hulkko, L. S. S. (Projektdeltager), Fredsgaard, M. (Projektdeltager), Kaniki, S. E. K. (Projektdeltager), Christensen, M. D. (Projektkoordinator), Holmene, C. F. (Projektleder) & Stensballe, A. (Projektdeltager)
European Commission

01/10/2019 → 31/12/2023

Investigation of microbial souring mechanisms and testing natural antibiotics for prevention of microbiologically influenced corrosion (MIC)

Chaturvedi, T. (PI (principal investigator)), Skovhus, T. (CoPI) & Thomsen, M. H. (PI (principal investigator))

01/10/2018 → 31/12/2018

Metabolic engineering of lipid pathways in an oleaginous yeast and optimization of fermentation parameters for enhanced lipid production from the organic fraction of municipal solid waste

Nielsen, L. (PI (principal investigator)), Thomsen, M. H. (Supervisor), Sørensen, J. L. (Supervisor) & Chaturvedi, T. (Supervisor)

01/08/2022 → 30/07/2027

Sugar to Lipid Conversion and Bio-hydrogen Production from Hydrolyzed Lignocellulosic Residues and Organic Fraction of Municipal Solid Waste

Spedtsberg, E. M. L. (PI (principal investigator)), Thomsen, M. H. (Supervisor), Sørensen, J. L. (Supervisor) & Chaturvedi, T. (Supervisor)

01/10/2021 → 30/09/2024