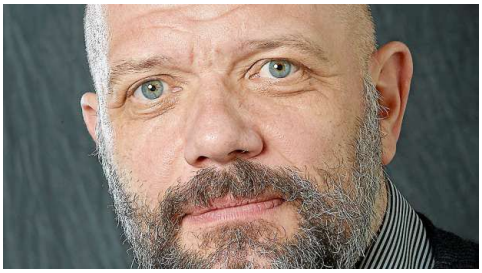

# CURRICULUM VITAE Carsten Suhr Jacobsen

## Personal data:

Telephone: +45 25 37 76 67
Email.: csj@envs.au.dk
ORCID ID: https://orcid.org/0000-0003-1041-0823

## Education / titles:

| | |
|---|---|
| September 2002 | Adjungt professor at Royal Veterinary and Agricutural University |
| October 1991 | Lic. scient. (Ph.D.) in microbiology from University of Copenhagen, Department of General Microbiology. |
| July 1987 | Cand. agro (M.Sc.) from Royal Veterinary and Agricultural University (now University of Copenhagen), master thesis on sorption and transport of atrazine in soil profiles. |

**Career:**

| | |
|---|---|
| April 2015 – present | Professor and Head of Department of Environmental Sciences, Aarhus University in Roskilde |
| April 2014 – March 2015 | Research professor (permanent), Geological Survey of Denmark and Greenland and University of Copenhagen, Department of Plant and Environment |
| May 2006 – April 2014 | Research professor, Geological Survey of Denmark and Greenland and University of Copenhagen, Department of Plant and Environment. |
| January 2004 – August 2004 | Visiting professor at University of Montana, USA. |
| October 1996 – April 2006 | Senior research microbiologist, Geological Survey of Denmark and Greenland. |
| August 1996 – Sept. 1996 | Research associate professor at Royal Veterinary and Agricultural University, Department of Ecology and Molecular Biology, Microbiology Section. |
| May 1992 – July 1996 | Research Assistant professor at Royal Veterinary and Agricultural University, Department of Ecology and Molecular Biology, Microbiology Section. |
| Sept. 1991 – April 1992 | Scientist (permanent position) at the National Environmental Research Institute, HAMI, Section of microbiology. |
| Sept. 1988 – August 1991 | Ph.D. scholarship from Centre for Microbiology and Centre for Microbial Ecology with split laboratory at the National Food Agency and the Genetic Engineering Group. |
| August 1987 – Sept. 1987 | Research assistant at the Laboratory for Analysis of Pesticides. |

## Short characteristics of research area:

Microbial ecology of microorganisms in environments such as permafrost, ice, soil, rhisosphere and groundwater is the main area of my research. I believe that microbial ecology in the environment can only be described properly using combinations of molecular methods, biogeochemical techniques and classical microbiology. I have used significant amount of energy on quantification of nucleic acids directly extracted from soil, and I have worked with different methods to quantify mRNA directly in soil. My research has been devoted to: 1) microbial

degradation of pesticides, PAH compounds and chlorinated compounds in various soils and groundwater aquifers 2) the study of microbial communities in ice and permafrost samples from Greenland, 3) the natural protection of plants by rhisphere microorganism, 4) the study of side effects of pesticides and ash on agricultural ecosystems services. In all cases exploring the same basic methodologies, i.e. DNA, rRNA and mRNA based analyses of the microorganisms directly in environmental samples. This work is often a part of larger collaborative projects, and I have often taken the initiative to these collaborative projects and served as centre leader.

## Referee for:

Nature Communication; Environmental Microbiology; Environmental Toxicology and Chemistry; FEMS Microbiology Ecology; FEMS Microbiology Letters; Pest Management Sciences; Chemosphere; Pedosphere; Applied and Environmental Microbiology; Soil Biology and Biochemistry; ISME Journal; Environmental Science and Technology; Nucleic Acid Research; PLoS One; Swedish Research Council; Norwegian Research Council; Flammich Research Council

## Administrative head of collaborative research and advisory projects:

2023-2026: Principal Investigator on Grand Solution center: “amoA - Impact evaluation framework for nitrification inhibitors” together with KU, GEUS and SEGES – co-financed by ARLA and Danish Crown total budget 14.000.000 DKK

2022-2025: GENEPEASE-II: Pesticide Effects on Agricultural Soil Ecosystems (PI) funded by the Danish EPA, total budget 2.500.000 DKK (own part 1.700.000 DKK)

2019-2026: Head of Aarhus University part of “Interact” Center, 1/3 of NOVO Nordisk Fundations funding of plant-microorganisms interactions program. Total funding 203.000.000 DKK shared between AU, KU, DTU and North Carolina State University. Our group receives 15.000.000.

2017-2020: Functioning centre leader: iClimate Aarhus University Interdisciplinary Centre for Climate Change, www.iClimate.au.dk

2016-2019: Principal investigator on pesticide degradation project NoNewBAM funded by the Danish EPA, total budget 3.300.000 DKK, with participation of three research groups.

2010-2020: Head of “Nordic Environmental Nucleotide Network” (NENUN) – funded by NordForsk to stimulate collaboration between Molecular Microbial Ecology groups in the Nordic countries (budget for travel 900.000 NOK) coordination of yearly workshops and PhD courses, travel grant administration and homepage development.

2010-2014: Principal investigator on “GENomic tools for assEssment of Pesticide Effects on the Agricultural Soil Ecosystem” (GENE-PEASE) funded by the Danish EPA, total budget 3.500.000 DKK, with participation of three research groups.

2008-2012: Centre leader of “Leaching of pathogens and estrogens from manure separation products to freshwater” (PATHOS) funded by the Danish Strategic Research Council. (Funding: DKK 7.398.323), total budget 15.300.000 DKK, with participation of five University research groups and five companies.

2003-2005: Centre leader of the continued project “Biological Processes in Contaminated Soil and Sediment” funded by “indlejringsmidler” from the Danish Research Council, DKK 3.000.000.

2000-2003: Head of microbiology and chemistry group (26 man year) in the governmental advisory project “Concepts for zonation of pesticide use”, determining pesticide leaching ability in relation to geological variability to future development of watershed protective areas in Denmark.

1998-2002: Centre leader of “Centre for Biological Processes in Contaminated Soil and Sediment” (BIOPRO). Strategic Environmental Research Programme, DKK 18.338.000, within the Danish Environmental Research Programme, with participation of 11 research groups at 10 institutions.

1995-2000: Head of the Danish Biotechnological Research Programme project “Population Ecology of Introduced Bacteria in Polluted Soil”, DKK 4.600.000. Collaboration with KVL and DHI.

## Other administrative skills:

- Scientific advisory board at Oath Inc. 2024-
- Co-editor for Sustainable microbiology (an Applied Microbiology International publication) 2023-
- Climate research group member CONCITO 2021
- Climate working group member for IDA (Danish engineering society) 2021
- Chair of scientific Committee for Polar and Alpine Microbiology conference in New Zealand 2019
- Chairman of the Danish Pasteur Society 2018-2022
- Chair and organizer of Polar and Alpine Microbiology in Nuuk, Greenland 2017
- Member of election board for Federation of European Microbiological Societies 2016-2024
- Scientific advisor Ampliqon A/S 2016-2021
- Councilmember of Federation of European Microbiological Societies 2014-2016
- Chairman of the Danish Microbiological Society 2015-2021
- Co-Organiser of PhD course: Amplicon based microbial community analysis, February 2015 and again May 2016.
- Co-Organiser of PhD course: From Sequencing to Publishing in Microbial Genomics, September 2014.
- Commercializing my most recent patent on DNA blocking reagent G2 with a Danish laboratory reagent company.
- Co-founder of mBioInform.com 2014-2017.
- Co-PI of Centre for Permafrost (CENPERM) funded by the Danish National Research Foundation (DKK 60.000.000), establishing of research infrastructure, hiring of centre administrator, technicians, postdocs and PhD students 2012-2017.
- Examined in “Scientist as a leader - Leadership of scientist” at Professionshøjskolen Metropol Nov 2011.
- Chairman of the Danish Microbiology Society Annual Symposium (nine sessions and >200 participants) 2010-2014.
- Expert member of working groups in the Danish EPA, regarding both scientific advisory and the Council for Legislation of Pesticides in Denmark 2005-
- Vice-Chairman of the Danish Microbiological Society 2012-2015.
- Co-founder and scientific advisor for Copenhagen Biotech Supply ApS 2007-.
- Head of Water and Health science working group within the framework of science platform for strategic research in water (IAFP-vand).
- Organiser of NorFa founded international workshop and practical excursion on the Greenland Ice Cap, September 2005.
- Organiser of NorFa founded Ph.D. course on molecular techniques in microbial ecology, Copenhagen (GEUS), December 2004.
- Organiser of international meeting on Microbial ecology of contaminated cold climate (80 participants), Copenhagen, November 2004.
- Member of the Swedish Research Council preparations, Natur och teknikvetenskap, NT-B, 2004-2006 (average yearly 120 applications).
- Co-founder of strategic network on arctic, glazier and permafrost microbiology, with University of Copenhagen and Danish Environmental Research Institute.

- Co-organiser of International Symposium on Subsurface Microbiology (ISSM02), September 2002.
- Guest editor for Environmental Toxicology and Chemistry.
- GEUS responsible for Research school in Environmental Chemistry and Ecotoxicology (RECETO), comprised of 11 institutions and 18 research groups.
- Member of European Federation on Biotechnology.
- Organiser (vice-chairman) of international SETAC conference, 200 participants, September 2001.
- Member of advisory board for Danish EPA regarding soil pollution.
- Member of International Society for Environmental Microbiology.
- Organiser of international BIOPRO meeting on bioremediation and bioavailability of PAH compounds in contaminated soil, 110 participants, December 2000.
- Organiser of international BIOPRO meeting on biological processes in heavy metal contaminated soil and sediment, 90 participants, December 1999.

## Grants and contracts

2023-2026: Principal Investigator on Grand Solution center: “amoA - Impact evaluation framework for nitrification inhibitors” together with KU, GEUS and SEGES – co-financed by ARLA and Danish Crown total budget 14.000.000 DKK

2023-2026: ICEBIO European Union under the HORIZON-MSCA-2021-DN-01 programme, project number 101072761. co-PI and main supervisor for 1 PhD student

2022-2025: Climate and Environmentally Friendly Plant Biologicals – Development of novel methods for assessing the impact of plant biologicals on crop productivity, climate, environment, and biodiversity: (co-PI) Funded as a part of AgriFoodTure total budget 8.7 mill – own part 1.7 mill)

2022-2025: GENEPEASE-II: Pesticide Effects on Agricultural Soil Ecosystems (PI) funded by the Danish EPA, total budget 2.500.000 DKK (own part 1.700.000 DKK)

2022-2025: Biological aggregate formation towards a healthy soil – AGGREGATE Novo Nordisk Foundation co-PI (750.000 of 3 mill)

2021-2024: Industrial researcher with Aikan/Solum on microbiome of biogasproduction (PhD student funding for three years, from Inovation Foundation)

2019-2025: NOVO Nordisk Foundation Collaborative Crop Resilience Program (CCRP) 203.000.000 DKK (own part 15 mill)

2017-2018: Network grant – with South Korea on Arctic Research, Danish Agency for Science and Education

2016-2019: Danish EPA 3.300.000 DKK from the Danish EPA (own part 2 mill) to project NoNewBAM

2013-2015: Norwegian Research Council 900.000 NKR with Lise Øverås and Janet Jansson

2013-2014: Innovation Voucher Project from Danish Council for Technology and Innovation DKK 100.000 to Centre for Biological Sequence Analysis at DTU used to start mBioInform.com

2013-2017: ASHBACK centre project funded by Danish Strategic Research Council with a budget of DKK 20.000.000 to study ecosystem effects of ash from biofuels on agricultural and forest soils

2012-2018: CENPERM (Center for Permafrost dynamics in Greenland) co-PI – funded by the Danish National Research Foundation (DKK 60.000.000).

2011-2014: Gene Expression and Activities in Cold GEO-environments (Geocenter)

2010-2015: NordForsk: Nordic Environmental Nucleotide Network” (NENUN) (900.000 NOK)

2010-2014: GENomic tools for assEssment of Pesticide Effects on the Agricultural Soil Ecosystem GENE-PEASE" – funded by the Danish EPA, total budget 3.500.000 DKK

2011-2014 Danish Research Council (FNU): Active microorganisms of the Greenlandic Icecap Surface DKK 2.200.00

2009-2010 The Danish Defense: JetFuel degradation at Station Nord DKK 300.000

2008-2012 Danish Strategic research Council: PATHOS centre – transport of pathogens and estrogen from manure to groundwater. DKK 7.400.000.

2008-2012 Danish Strategic research Council: Quantitative PCR to determine compositing and Activity of Dechlorinating Microbial Populations in anaerobic Aquifers. DKK 2.100.000

2008-2012 Danish Geocentre award: Bacterial movement in soil.DKK 1.500.000.

2007-2008 Carlsberg Foundation: Isolation of culturable permafrost active bacteria from contrasting Greenlandic samples. DKK 1.200.000.

2007-2008 Danish research council: Microbial ecology of the Greenland Icecap and Permafrost soils. DKK 385.000.

2006 Danish EPA: Dancea programme: Global contamination of the Greenland Ice-cap. DKK 1.143.000.

2005 Danish research council: DKK 1.600.000 (Ph.D. study on pesticide degradation in relation to specific microbial activity (mRNA) in soils).

2005-2006 NORFA network extension of funding, 15 % of NOK 520.000.

2005 Fyns County: Contract on Real Time-PCR detection of *Dehallococcoides* sp in contaminated Aquifer. DKK 60.000.

2004 Carlsberg Foundation and Research council: Travel support for sabbatical at University of Montana spring 2004. DKK 200.000.

2003-2005 Research council: BIOPRO indlejring, Centre leader. DKK 3.000.000 (GEUS part +900.000).

2003 Fyns County: Contract on Q-PCR detection of *Dehallococcoides* sp in contaminated Aquifer. DKK 185.000.

2003 Copenhagen County: Biological effect of thermal assisted soil remediation. DKK 180.000.

2003-2006 Research Council: Part of SOUND project. DKK 1.860.000.

2002-2004 NORFA network: Microbial ecology and bioremediation in cold climate. 20% of NOK 780.000.

2001-2002 Danish EPA grant: Biological effect of thermal assisted soil remediation. DKK 255.000.

2001-2002 Greenland Resources: Company research project on composition of bacterial content of the Greenland ice. DKK 351.000.

1998-2002 Centre for Biological Processes in Contaminated Soil and Sediment; Strategic Environmental Research Programme: Centre leader of BIOPRO. DKK 18.338.000.

1998-2000 EU Contract no. ENV4-CT97-0617: Stimulation of bacterial mobility to enhance bioremediation of soil (BAMBI). DKK 850.000.

1996-1999 Danish Biotechnological Research Programme: Population Ecology of Introduced Bacteria in Polluted Soil: Centre Leader. DKK 4.650.000.

1995-1999 Research Council: Miniherbicide Project. DKK 1.800.000.

1995-1999 Danish EPA: Pesticide Effect on Agricultural Ecosystems (PEASE). DKK 1.300.000.

1992-1997 Danish Ecotoxicology Centre: PAH degrading bacteria in soil. DKK 531.000.

## Complete list of publications

Published 124 journal papers in ISI registered international scientific journals, additional two in revision and 3 submitted. 3 patents, 5 book chapters, >50 reports and popular publications, and >100 presentations at national or international meetings. My H-index (7th April 2024) is 41 with 4862 citations - based on WOS. I am first author on 11, last author on 61 and contributing author on 52.

Scheel, M., Zervas, A., Rijkers, R., Tveit, A. T., Ekelund, F., Campuzano Jiménez, F., Christensen, T. R. & **Jacobsen, C. S.** (2023) (124)
Abrupt permafrost thaw triggers activity of copiotrophs and microbiome predators; FEMS Microbiology Ecology. 99, 11, 12 s., fiad123.

Ahmad, J., Zervas, A., Ellegaard-Jensen, L., Hennessy, R., Carbone, I., Cornish, V., Müller-Stöver, D., Grunden, A., **Jacobsen, C.S.,** Nicolaisen, M.H. (2022) (123)
Microbial diversity in four rhizocompartments (bulk soil, rhizosphere, rhizoplane and endosphere) of four winter wheat varieties at the fully emerged flag leaf growth stage. Microbiology Resource Announcements MRA00663-22

Ghofrani-Isfahani, P., Tsapekos, P., Peprah, M., Kougias, P., Zervas, A., Zhu, X.Y., Yang, Z.Y., **Jacobsen, CS**., Angelidaki, I (2022) (122)
Ex-situ biogas upgrading in thermophilic trickle bed reactors packed with micro-porous packing materials.
Chemosphere DI 10.1016/j.chemosphere.2022.133987

Zervas, A., Ellegaard-Jensen, L., Hennessy, R.C., Bak, F. Guan, Y. Horn H.C., Molina, Z., Kitzia Y., Thybo Ganzhorn, D. Muller-Stover, D.S., Ahmad, J. Grunden, A., **Jacobsen, C.S.** Nicolaisen, M.H. (2022) (121)
Diversity and Structure of Bacterial Communities in Different Rhizocompartments (Rhizoplane, Rhizosphere, and Bulk) at Flag Leaf Emergence in Four Winter Wheat Varieties Microbiology Resource Announcements DOI10.1128/mra.00222-22

Scheel, M., Zervas A., **Jacobsen C.S.**, Christensen T.R. (2022) (120)
Microbial Community Changes in 26,500-Year-Old Thawing Permafrost
Frontiers in Microbiology VOLUME=13 DOI=10.3389/fmicb.2022.787146

Mondini A., Anwar M.Z., Ellegaard-Jensen L., Lavin P., **Jacobsen C.S**., Purcarea C. (2022) (119)
Heat Shock Response of the Active Microbiome From Perennial Cave Ice
Frontiers in Microbiology (12) DOI=10.3389/fmicb.2021.809076

Zhang, Z., Tsapekos, P., Alvarado-Morales, M., Zhu, X., Zervas, A., **Jacobsen, C.S**., Angelidaki, I., (2022) (118)
Enhanced fermentative lactic acid production from source-sorted organic household waste: Focusing on low-pH microbial adaptation and bio-augmentation strategy, Science of The Total Environment, Volume 808, https://doi.org/10.1016/j.scitotenv.2021.152129.

Cruz-Paredes C., Bang-Andreasen T., Christensen S., Ekelund F., Frøslev T.G., **Jacobsen C.S.**, Johansen J.L., Mortensen L.H., Rønn R., Vestergård M., Kjøller R. (2021) (117)
Bacteria Respond Stronger Than Fungi Across a Steep Wood Ash-Driven pH Gradient
Frontiers in Forests and Global Change DOI=10.3389/ffgc.2021.781844

Ghofrani-Isfahani, P., Tsapekos, P., Peprah, M., Kougias, P., Zhu, X., Kovalovszki, A., Zervas, A., Zha, X.,; **Jacobsen, C.S**., Angelidaki, I. (2021) (116)
Ex-situ biogas upgrading in thermophilic up-flow reactors : The effect of different gas diffusers and gas retention times. Bioresource Technology, Bind 340, 125694, 11.2021.

Yan, M., Zhu, X., Treu, L., Ravenni, G., Campanaro, S., Goonesekera, E.M., Ferrigno, R., **Jacobsen, C.S.**; Zervas, A., Angelidaki, I., Fotidis, I.A. (2021) (115)
Comprehensive evaluation of different strategies to recover methanogenic performance in ammonia-stressed reactors**.** Bioresource Technology, 336, 125329, 09.2021.

Bang-Andreasen, T., Peltre, M., Ellegaard-Jensen, L., Hansen, L.H., Ingerslev, M., Rønn, R., **Jacobsen, C.S.**, Kjøller, R. (2021) (114)
Application of wood ash leads to strong vertical gradients in soil pH changing prokaryotic community structure in forest top soil Scientific Reports, Bind 11, Nr. 1, 742, 01.2021.

Malard, L.A.; Anwar, M.Z.; **Jacobsen, C.S**.; Pearce, D.A. (2021) (113)
Influence of Spatial Scale on Structure of Soil BacterialCommunities across an Arctic Landscape. Applied and Environmental Microbiology 87(2) :e02220-20

Albers, C.N., Jacobsen, O.S., Bester, K.**, Jacobsen, C.S**., Carvalho, P.N. (2020) (112)
Leaching of herbicidal residues from gravel surfaces – A lysimeter-based study comparing gravels with agricultural topsoil. Environmental Pollution. 266(3). doi.org/10.1016/j.envpol.2020.115225.

Cameron, K.A., Muller, O., Stibal, M., Edwards, A., **Jacobsen, C.S.** (2020) (111) Glacial microbiota are hydrologically connected and temporally variable. Environmental Microbiology DOI=10.1111/1462-2920.15059

Schostag, M.D., Nyrop C.A., **Jacobsen, C.S.**, Priemé A. (2020) (110) Low Turnover of Soil Bacterial rRNA at Low Temperatures. Frontiers in Microbiology 11:962 DOI=10.3389/fmicb.2020.00962

Svendsen, S.B.; Carvalho, P.N.; Bollmann, U.E.; Ellegaard-Jensen, L.; Albers, C.N.; Strobel, B.W.; **Jacobsen, C.S**.; Bester, Kai. (2020) (109) A comparison of the fate of diflufenican in agricultural sandy soil and gravel used in urban areas. Science of the total Environment, 715, 136803, 01.05.2020.

Anwar, M.Z.; Zervas, A.; Hansen, L.H.; Barker, G.; Anesio, A.M.; **Jacobsen, C.S.** (2020) (108)
Complete Genome and Plasmid Sequences of Salmonella enterica subsp. enterica Serovar Enteritidis PT1, Obtained from the Salmonella Reference Laboratory at Public Health England, Colindale, United Kingdom. Microbiology Resource Announcements, Bind 9, Nr. 2, 09.01.2020.

Bang-Andreasen, T.; Anwar, M.Z.; Lanzén, A.; Kjøller, R.; Rønn, R.; Ekelund, F.; **Jacobsen, C.S**. (2020) (107) Total RNA sequencing reveals multilevel microbial community changes and functional responses to wood ash application in agricultural and forest soil. FEMS Microbiology Ecology, 96,3, fiaa016.

Malard, L.A.; Anwar, M.Z.; **Jacobsen, C.S**.; Pearce, D.A. (2019) (106) Biogeographical patterns in soil bacterial communities across the Arctic region. FEMS Microbiology Ecology 95(9):fiz128

Mondini, A.; Schoestag, M.D.; Ellegaard-Jensen,L.; Bang-Andeasen, T.; Anwar, M.Z.; Purcarea, C.; **Jacobsen, C.S.** (2019) (105). Total RNA protocol (extraction, quantification and Illumina library preparation) https://dx.doi.org/10.17504/protocols.io.457gy9n

Anwar, M.Z.; Lanzen, A.; Bang-Andreasen, T.; **Jacobsen, C.S**. (2019) (104) To assemble or not resemble – A validated Compaative Metatranscriptomics Workflow (CoMW). GigaScience 8:01aug2019

Gobbi,A.; Santini, R.G.; Filippi, E.; Ellegaard-Jensen, L.; **Jacobsen, C.S.**; Hansen, L.H. (2019) (103) Quantitative and qualitative evaluation of the impact of he G2 enhancer, bead sizes and lysing tubes on the bacterial community composition during DNA extraction from recalcitrant soil core samples based on community sequencing and qPCR. PLOS ONE 14:e0200979

Schostag, M.; Prieme, A.; Jacquiod, S.; Russel, J.; Ekelund, F.; **Jacobsen C.S.** (2019) (102) Bacterial and protozoan dynamics upon thawing and freezing of an active layer permafrost soil. ISME Journal 13:1345-1359.

Schostag, M.D.; Anwar, M.Z.; **Jacobsen, C.S.**; Larose, C.; Vogel, T.M.; Maccario, L.; Jacquiod, S.; Faucherre, S.; Priemé, A. (2019) (101) Transcriptomic responses to warming and cooling of an Arctic tundra soil microbiome. bioRxiv 599233.

Stibal, M.; **Jacobsen, C.S.**; Haggblom, M.M. (2018) (100) Editorial: Polar and Alpine Microbiology. FEMS Microbiology Ecology 94:9-136

Svendsen, S.H.; Prieme, A.; Voriskova, J.; Krashoj, M.; Schostag, M.; **Jacobsen, C.S**.; Rinnan, R. (2018) (99) Emissions of biogenic volatile organic compounds from arctic shrub litter are coupled with changes in the bacterial community composition. Soil Biology and Biochemistry 120:80-90.

**Jacobsen, C.S.**; Nielsen, T.K.; Vester, J.K.; Stougaard, P.; Nielsen, J.L.; Voriskova, J.; Winding, A.; Baldrian, P.; Liu, B.; Frostegård, Å.; Pedersen, D.; Tveit, A.T.; Svenning, M.M.; Tebbe, C.C.; Øvreås, L.; Jacobsen; P.B.; Blazewicz, S.J.; Hubablek, V.; Bertilsson, S.; Hansen, L.H.; Cary, C.; Holben, W.E.; Ekelund, F.; Bælum, J (2018) (98) Inter-laboratory testing of the effect of DNA blocking reagent G2 on DNA extraction from low-biomass samples. Scientific Reports 8:5711.

Amha, Y.M.; Anwar, M.Z.; Brower, A.; **Jacobsen, C.S**.; Stadier, L.B.; Webster, T.M.; Smith, A.L. (2018) (97) Inhibition of anaerobic digestion processes: Applications of molecular tools. Bioresource Technology 247:999-1014

Bang-Andreasen, T.; Nielsen, J.T.; Voriskova, J.; Heise, J.; Ronn, R.; Kjoller, R.; Hansen, H.C.B.; **Jacobsen, C.S.** (2017) (96) Wood Ash Induced pH Changes Strongly Affect Soil Bacterial Numbers and Community Composition. Frontiers in Microbiology, 8:1400.

Cameron, K.A.; Stibal, M.; Olsen, N.S.; Mikkelsen, A.B; Elberling, B.; **Jacobsen, C.S**. (2017) (95) Potential Activity of Subglacial Microbiota Transported to Anoxic River Delta Sediments. Microbial Ecology, Vol. 74:6-9.

Cameron, K.A.; Stibal, M.; Chrismas, N.; Box, J.; **Jacobsen, C.S.** (2017) (94) Nitrate addition has minimal short-term impacts on greenland ice sheet supraglacial prokaryotes. Environ Microbiol Reports, Vol 9:144-150.

Bang-Andreasen, T. Schostag, M.; Priemé, A.; Elberling, B.; **Jacobsen, C.S**. (2017) (93) Potential microbial contamination during sampling of permafrost soil assessed by tracers. Scientific Reports, Vol. 7, 23.02.2017, s. 43338.

Cameron, K.A.; Stibal, M.; Hawkings, J.R.; Mikkelsen, A.B.; Telling, J.; Kohler, T.J.; Gozdereliler, E.; Zarsky, J.D.; Wadham, J.L.; **Jacobsen, C.S.** (2017) (92) Meltwater export of prokaryotic cells from the Greenland ice sheet. Environ Microbiol, Vol 19:524-534.

Hauptmann, A.L.; Markussen, T.N.; Stibal, M.; Olsen, N.S.; Elberling, B.; Bælum, J.; Sicheritz-Pontén, T.**; Jacobsen, C.S.** (2016) (91). Upstream Freshwater and Terrestrial Sources Are Differentially Reflected in the Bacterial Community Structure along a Small Arctic River and Its Estuary. Frontiers in Microbiology, Vol. 7:1-16.

Mackelprang, R.; Saleska, S.R.; **Jacobsen, C.S.**; Jansson, J.K.; Taş, N. (2016) (90) Permafrost Meta-Omics and Climate Change. Annual Review of Earth and Planetary Sciences, 44:439-462.

Badin, A., Broholm, M.M., **Jacobsen, C.S**., Palau, J., Dennis, P. and Hunkeler, D. (2016) (89) Identification of abiotic and biotic reductive dechlorination in a chlorinated ethene plume after thermal source remediation by means of isotopic and molecular biology tools. Journal of Contaminant Hydrology 192:1-19.

Cameron, K.A.,Stibal, M., Zarsky, J.D., Gözdereliler, E., Schostag, M. and **Jacobsen, C.S**. (2016) (88) Supraglacial bacterial community structures vary across the Greenland ice sheet FEMS Microbiology Ecology http://dx.doi.org/10.1093/femsec/fiv164

Glæsner, N.; Bælum, J.; **Jacobsen, C.S.**; Ritz, C; Rubæk, G.H.; Kjaergaard, C.; Magid, J. (2016) (87) Bacteria as transporters of phosphorus through soil. European Journal of Soil Science, 67:99-108.

Feld, Louise; Hjort Hjelmsø, Mathis; Schostag, Morten; Jacobsen, Anne Dorthe; Rønn, Regin; Ekelund, Flemming; Krogh, Paul Henning; Strobel, Bjarne W., **Jacobsen, C.S.**(2015) (86) Pesticide side effects in an agricultural soil ecosystem as measured by amoA expression quantification and bacterial diversity changes. P L o S One, Vol. 10, Nr. 5, e0126080

Hansen, M., Björklund, E., Popovic, O., Jensen, L.S., **Jacobsen, C.S**., Sedlak, D.L., Halling-Sørensen, B. (2015) (85) Animal manure separation technologies diminish the environmental burden of steroid hormones. Environmental Science & Technology Letters, Vol. 2, Nr. 4, 2015, s. 133-137.

Stibal, Marek; Schostag, Morten ; Cameron, Karen A., Hansen, L.H., Chandler, D.M., Wadham, J.L. ; **Jacobsen, C.S**. (2015) (84) Different bulk and active bacterial communities in cryoconite from the margin and interior of the Greenland ice sheet. Environmental Microbiology Reports.7(2):293-300.

Nielsen, M.S., Stibal, M., **Jacobsen, C.S**., Bælum, J., Tas, N., Elberling, B., Jansson, J., Semenchuk, P., Priemé, A. (2015) (83) Distinct summer and winter bacterial

communities in the active layer of Svalbard permafrost revealed by DNA- and RNA-based analyses. Frontiers in Microbiology, Vol. 6, 399.

Stibal, M., Gozdereliler, E., Cameron, K.A., Box, J., Stevens, I.T., Gokul, J.K., Schostag, M., Zarsky, J.D., Edwards, A., Irvine-Fynn, T.D.L.; **Jacobsen, C.S.** (2015) (82). Microbial abundance in surface ice on the Greenland Ice Sheet. Frontiers in Microbiology, Vol. 6.

Bech, T.B., Sbodio, A., **Jacobsen, C.S.**, and Suslow, T. (2014) (81)
Adhesion of Escherichia coli and Salmonella enterica to Soil in Runoff as Influenced by Polyacrylamide. Journal of Environmental Quality 43:2002-2008

Hauptmann, A.L., Stibal, M., Bælum, J., Sicheritz-Ponten, T., Brunak, S., Bowman, J.S., Hansen, L.H., **Jacobsen, C.S.** and Blom, N. (2014) (80)
Bacterial diversity in snow on North Pole ice floes. Extremophiles 18:945-951.

Kragh, K.N., Alhede, M., Jensen, P.O., Moser, C., Scheike, T., **Jacobsen, C.S**., Poulsen, S.SS., Eickhardt-Sørensen, S.R., Trostrup, H. Christoffersen, L., Hougen, H.P., Rickelt, L.F., Kuhl, M., Hoiby, N. & Bjarnsholt, T. (2014) (79) Polymorphonuclear Leukocytes Restrict Growth of Pseudomonas aeruginosa in the Lungs of Cystic Fibrosis Patients. Infection and Immunity 82:4477-4486.

Bech, T.B., Rosenbom, A.E., Kjaer, J., Amin, M.G.M., Olsen, P. and **Jacobsen, C.S**. (2014) (78)
Factors influencing the survival and leaching of tetracycline-resistant bacteria and Escherichia coli through structured agricultural fields. Agriculture Ecosystems & Environment, 195:10-17

Bælum, J., Scheutz, C., Chambon, J.C., Jensen, C.M., Brochmann, R.P., Dennis, P., Laier, T., Broholm, M.M., Bjerg, P.L., Binning, P.J. and **Jacobsen, C.S**. (2014) (77)
The impact of bioaugmentation on dechlorination kinetics and on microbial dechlorinating communities in subsurface clay till. Environmental Pollution, 186:149-157.

Glæsner, N.; Bælum, J., Strobel, B.W., and **Jacobsen, C.S.** (2014) (76)
Ageing of atrazine in manure amended soils assessed by bioavailability to Pseudomonas sp strain ADP Biodegradation, 25:217-225

Hjelmsø, M, Hansen, L.H., Bælum, J., Feld, L., Holben, W.E. Jacobsen, C.S. (2014) (75)
High Resolution Melt analysis for rapid comparison of bacterial community composition, Applied and Environmental Microbiology 80:3568-3575.

Altenburger, A., Bender, M., Ekelund, F., Elmholt, S. and **Jacobsen, C.S**. (2014) (74)
Steam-treatment-based soil remediation promotes heat-tolerant potential-pathogenic microbiota. Environmental Technology 35(6):773-780.

**Jacobsen, C.S.** and Hjelmsø, M.H. (2014) (73)
Agricultural soils, pesticides and microbial diversity. Current Opinion in Biotechnology 27:15-20.

Zarsky, J.D., Stibal, M., Hodson, A., Satter, B. Schostag, M, Hansen, L.H., **Jacobsen, C.S**. and Psenner, R. (2013) (72)

Large cryoconite aggregates on a Svalbard glacier support a diverse microbial community including ammonia-oxidizing archaea Environmental Research Letters 8(3) DOI 10.1088/1748-9326/8/3/035044

Pauline, M.M., Nicolaisen, M.H., **Jacobsen, C.S**., Gimsing, A.L., Sørensen, J., Bælum, J. (2013) (71)
Improving Griffith's protocol for co-extraction of microbial DNA and RNA in adsorptive soils. Soil Biology and Biochemistry 63:37-49

Bælum, J., Chambon, J.C., Scheutz, C., Binning, P.J., Laier, T., Bjerg, P.L. and **Jacobsen, C.S**. (2013) (70).
A conceptual model linking functional gene expression and reductive dechlorination rates of chlorinated ethenes in clay rich groundwater sediment. Water Research 47:2467-2478.

Albers, C.N., Bælum, J., Jensen, A., **Jacobsen, C.S.** (2013) (69).
Inhibition of DNA polymerases used in Q-PCR by structurally different soil-derived humic substances. Geomicrobiology Journal. 30:675-681.

Damgaard, I., Bjerg, L., Bælum, J., Scheutz, C., Hunkeler, D., **Jacobsen, C.S**., Tuxen, N., and Broholm, M.M. (2013) (68).
Identification of chlorinated solvents degradation zones in clay till by high resolution chemical, microbial and compound specific isotope analysis. *Journal of Contaminant Hydrology*,146:37-60 2012.

Damgaard, I., Bjerg, P.L., **Jacobsen, C.S**., Tsitonaki, A., Kerrn-Jespersen, H., Broholm, M.M., (2013) (67).
Performance of full scale enhanced reductive dechlorination in clay till. *GroundWater Monitoring & Remediation*. **33(1):48-61** .

Stibal, M., Bælum, J., Holben, W.E., Sørensen, S.R., Jensen, A., **Jacobsen, C.S**. (2012) (66)
Microbial Degradation of 2,4-Dichlorophenoxyacetic Acid on the Greenland Ice Sheet. Applied and Environmental Microbiology 78: 5070-5076.

**Jacobsen, C.S**. and Bech, T (2012) (65)
Soil survival of Salmonella and transfer to freshwater and fresh produce. Food Research International. 45(2):557-566.

Bælum, J., Prestat, E., David, M.D., Strobel, B.W., **Jacobsen, C.S.** (2012) (64).
Modeling of Phenoxy Acid Herbicide Mineralization and Growth of Microbial Degraders in 15 Soils Monitored by Quantitative Real-Time PCR of the Functional tfdA Gene. Applied and Environmental Microbiology 78:5305-5312.

Vestergård, M., Ekelund, F., Winding, A., **Jacobsen, C.S**. and Christensen, S. (2011) (63)
Starved bacteria retain their size but lose culturability – Lessons from a 5000 years old undisturbed A-horizon. Soil Biology and Biochemistry, 43:1379-1382.

Nielsen, M.S., Bælum, J., Jensen, M.B. and **Jacobsen C.S .**(2011) (62)
Mineralization of the herbicide MCPA in urban soils is linked to presence and growth of tfdA genes. Soil Biology and Biochemistry. 43:984-990.

Hunkeler, D., Abe, Y., Broholm, M.M., Jeannottat, S., Westergaard, C., **Jacobsen, C.S**., Aravena,

R. and Bjerg P.L. (2011) (61)
Assessing chlorinated ethene degradation in a large scale contaminant plume by dual carbon–chlorine isotope analysis and quantitative PCR.
Journal of Contaminant Hydrology. 119:69-79.

Bech, T., Dalsgaard, A., Jacobsen, O.S. and **Jacobsen, C.S.** (2010) (60)
Leaching of Salmonella Senftenberg in intact clay soil columns influenced by two manure application methods. Groundwater 49:32-42.

Glæsner, N., Bælum, J., Strobel, B.W. and **Jacobsen, C.S.** (2010) (59)
Atrazine is not readily mineralised in 24 temperate soils regardless of pre-exposure to triazine herbicides. Environ Pollution. 158:3670-3674.

Scheutz, C., Broholm, M.M., Durant, N., Jørgensen, T., Weeth, E.B., Dennis, P., **Jacobsen, C.S.**, Cox, E., Chambon, J.C. and Berg, P.L. (2010) (58)
Field evaluation of biological enhanced reductive dechlorination of chloroethenes in clayey till. Environmental Science & Technology, 44:5134-5141.

Altenburger, A., Ekelund, F. and **Jacobsen, C.S.** (2010) (57)
Protozoa and their bacterial prey colonize sterile soil fast. Soil Biology and Biochemistry, 42:1636-1639.

García, R., Bælum, J., Fredslund, L., Santorum, P., and **Jacobsen, C.S**. (2010) (56)
**Influence of Temperature and Predation on Survival of Salmonella enterica Serovar Typhimurium and Expression of invA in Soil and Manure-Amended Soil**
Appl. Envir. Microbiol. 76: 5025 - 5031.

Sørensen, S.R., Johnsen A.R., Jensen, A. and **Jacobsen C.S.** (2010) (55)
Presence of psychrotolerant phenanthrene-mineralising bacterial populations in contaminated soils from the Greenland High Arctic. FEMS Microbiology Letters 305:148-154.

Bælum, J., **Jacobsen, C.S**. and Holben, W.E. (2010) (54)
Comparison of 16S rRNA gene phylogeny and functional tfdA gene distribution in thirty-one different 2,4-dichlorophenoxyacetic acid and 4-chloro-2-methylphenoxyacetic acid degraders. Systematic and Applied Microbiology 33:67-70.

Bech, T.B., Johnsen, K., Dalsgaard, A., Laegdsmand, M., Jacobsen, O.H. and **Jacobsen C.S.** (2010) (53)
Transport and distribution of Salmonella enterica serovar Typhimurium in loamy and sandy soil monoliths with applied liquid manure. Applied and Environmental Microbiology 76:710-714.

Mª Sonia Rodríguez-Cruz M.S., Bælum, J., Shaw, L.J., Sørensen, S.R., Shi, S., Aspray, T., **Jacobsen, C.S.** and Bending, G.D. (2010) (52)
Biodegradation of the herbicide mecoprop with soil depth and its relationship with tfdA gene copy number and diversity. Soil Biology and Biochemistry 42:32-39.

Gimsing, A.L., Bælum, J., Dayan, F.E., Locke, M.A., Sejerø, L.H. and **Jacobsen, C.S.** (2009) (51)
Mineralization of the allelochemical sorgoleone in soil Chemosphere 76 (2009) 1041–1047

Bælum, J. and **Jacobsen, C.S.** (2009) (50) A Multiplex Real-Time PCR Assay for Detection and Discrimination of Class I-III tfdA Genes in Soils Treated with Phenoxy Acid Herbicides. Applied and Environmental Microbiology 75:2969-2972.

Fredslund, L., Sniegowski K., Wick, L.Y., **Jacobsen, C.S**., De Mot, R. and Springae D. (2008) (49)
Surface motility of polycyclic aromatic hydrocarbon (PAH)-degrading mycobacteria. Research in Microbiology 159:255-262.

**Jacobsen, C.S.**, van der Keur, P., Iversen, B.V., Rosenberg, P., Barlebo, H., Torp, S., Vosgerau, H., Juhler, R.K., Rasmussen, J., Brinch, U.C. and Jacobsen O.H. (2008) (48)
Variation of MCPA, Metribuzine, Methyltriazine-amine and Glyphosate degradation, sorption, mineralization and leaching in different soil horizons.
Environmental Pollution 156:794-802.

Bælum, J., Nicolaisen, M.H., Holben, W.E., Strobel, B.W., Sørensen, J. and **Jacobsen C.S.** (2008) (47)
Direct analysis of tfdA gene expression by indigenous bacteria in phenoxy acid amended agricultural soil.
Nature Publishing Group, The ISME Journal 2:677-687.

Nicolaisen, M.H., Bælum, J., **Jacobsen, C.S**. and Sørensen J. (2008) (46)
Transcription dynamics of the functional tfdA gene during MCPA herbicide degradation by Cupriavidus necator AEO106 (pRO101) in agricultural soil.
Environmental Microbiology 10:571–579.

Fredslund L., Vinther, F.P., Brinch, U.C., Elsgaard, L., Rosenberg, P. and **Jacobsen, C.S**. (2008) (45)
Field scale variation in the mineralization and sorption of MCPA in a sandy soil
Journal Environmental Quality 37:1918-1928

Vinther, F.P., Brinch, U.C., Elsgaard L., Fredslund, L., Iversen, B.V., Torp, S. and **Jacobsen, C.S**. (2008) (44)
Field-scale variation of microbial activity and soil properties in relation to sorption and degradation of pesticides in a sandy soil.
Journal Environmental Quality 37:1710-1718

**Jacobsen, C.S**. and Holben, W.E. (2007) (43)
Quantification of mRNA in Salmonella sp. seeded soil and chicken manure using magnetic capture hybridization RT-PCR. Journal of Microbiological Methods 69:315-321.

Johnsen, A.R., S. Schmidt,S., Hypholt, T.K., Henriksen, S., **Jacobsen, C.S**. and Andersen, O. (2007) (42)
Strong impact on the polycyclic aromatic hydrocarbon (PAH)-degrading community of a PAH-polluted soil, but marginal effect on PAH-degradation when priming with bioremediated soil dominated by mycobacteria..
Applied and Environmental Microbiology 73:1474-1480.

Bender, M., Holben, W.E., Sørensen, S.J. and **Jacobsen, C.S.** (2007) (41)
Use of a PNA probe to block DNA mediated PCR product formation in prokaryotic RT-PCR.
BioTechniques 42:609-642.

Lindberg, E., Albrechtsen, H.J., and **Jacobsen, C.S**. 2007(40)
Inhibition of real-time PCR in DNA extracts from aquifer sediment.
Geomicrobiology Journal 24:343-352.

Kristensen, K.E., **Jacobsen C.S**., Hansen, L.H., Aamand J., Morgan, J.A.W., Sternberg, C. and Sørensen, S.R. (2006) (39)
Genetic labeling and application of the isoproturon-mineralizing Sphingomonas sp. strain SRS2 in soil and rhizosphere.
Letters in Applied Microbiology, 43:280-286.

Johnsen, A.R., de Lipthay, J.R., Reichenberg, F., Sørensen, S.J., Andersen, O., Christensen, P., Binderup, M., and **Jacobsen, C.S.** (2006) (38)
Biodegradation, bioaccessibility and genotoxicity of diffuse polycyclic aromatic hydrocarbon (PAH) pollution at a motorway site..
Environmental Science and Technology 40:3293-3298.

Bælum, J., Henriksen, T., Hansen, H.C.B. and **Jacobsen, C.S.** (2006) (37)
Degradation of 4-chloro- 2-methyl-phenoxyacetic acid in top- and subsoil is quantitatively linked to the class III tfdA gene..
Applied and Environmental Microbiology 72:1476-1486.

Johnsen, A., de Lipthay, J.R., Sørensen, S.J., Ekelund, F., Christensen, P., Andersen, O., Karlson, U and **Jacobsen, C.S.** (2006) (36)
Microbial degradation of street dust PAHs in microcosms simulating diffuse pollution of urban soil.
Environmental Microbiology 8(3):535-545.

Sørensen, S.R., Rasmussen, J., **Jacobsen, C.S.**, Jacobsen, O.S., Juhler, R.K., and Aamand J. (2005) (35)
Elucidating the Key Member of a Linuron-mineralizing Bacterial Community by PCR and RT-PCR Denaturing Gradient Gel Electrophoresis 16s rRNA Gene Fingerprinting and Cultivation.
Applied and Environmental Microbiology 71:4144-4148.

Godskesen, B., Holm, P., Jacobsen, O.S. and **Jacobsen, C.S.** (2005) (34)
Ageing of triazine amine in soil and subsoil.
Environmental Chemistry and Toxicology 24(3):510-516.

Mortensen, S.K. and **Jacobsen, C.S.** (2004) (33)
Influence of frozen storage on herbicide degradation capacity in surface and subsurface sandy soils.
Environmental Science and Technology, 38:6625-6632.

Strange-Hansen, R., Holm, P., Jacobsen, O.S. and **Jacobsen, C.S.** (2004) (32)
Mineralisation, sorption and mobility of N-(phosphonomethyl)-glycine (Glyphosate) in five different types of gravel.
Pest Management Science 60:570-578.

Sørensen, S.R., Bending G.D., **Jacobsen, C.S.**, Walker A. and Aamand J (2003) (31)
Minireview: Microbial degradation of isoproturon and related phenylurea herbicides in and below agricultural fields.
FEMS Microbiology Ecology 45:1-11.

Holtze, M., Ekelund, F., Rasmussen, L.D., **Jacobsen, C.S.** & Johnsen, K. (2003) (30)
Effects of mercury on prey-predator dynamics in populations of bacteria and protozoa in soil.
Soil Biology and Biochemistry, 35:1175-1181.

Hestbjerg, H., Willumsen, P.A., Christensen, M. Andersen, O and **Jacobsen, C.S.** (2003) (29)
Bioaugmentation of tar-contaminated soils under field conditions using Pleurotus ostreatus refuse from commercial mushroom production.
Environmental Toxicology and Chemistry. 22:692-698.

Brinch U.C., Ekelund, F. and **Jacobsen, C.S.** (2002) (28)
Respons of soil bacterial and microfaunal populations to the organic solvents used when artificially contaminating native soil samples with polycyclic aromatic hydrocarbons.
Applied and Environmental Microbiology 68:1808-1816.

Andersen, S.M., Hertz, P.B., Holst, T., Bossi R. and **Jacobsen, C.S**. (2001) (27)
Microbial mineralisation of chlorsulfuron, metsulfuron methyl, tribenuron methyl and thifensulfuron methyl in a Danish soil profile.
Chemosphere 45:775-782.

**Jacobsen, C.S.**, Shapir, N., Christensen, L.O., Jensen, E.H., Juhler, R.K. Streibig, J.C. Mandelbaum, R. and Helweg A. (2001) (26)
Bioavailability of triazine herbicides in a sandy soil profile.
Biology and Fertility of Soils 33:501-506.

Johnsen, K., **Jacobsen, C.S.**, Torsvik, V. and Sørensen, J. (2001) (25)
Pesticide effects on bacterial diversity in agricultural soils.
Biology and Fertillity of Soils 33:443-453.

Andersen, S.M., Mortensen, H.S., Bossi, R. and **Jacobsen, C.S.** (2001) (24)
Isolation and characterisation of a Rhodococcus erythropolis strain TA57 that mineralises the triazine amine metabolite from metsulfuron-methyl.
Systematic and Applied Microbiology 24:262-266.

Thirup, L., Johnsen, K., Torsvik, V., Spliid, N.H. and **Jacobsen, C.S.** (2001) (23)
Effects of fenpropimorph on bacteria and fungi during decomposition of barley roots.
Soil Biology and Biochemistry 33:1517-1524.

Fredslund, L., Ekelund, F., **Jacobsen, C.S.** and Johnsen, K. (2001) (22)
Development and Application of a Most Probable Number-PCR Assay to Quantify Flagellate Populations in Soil Samples.

Applied and Environmental Microbiology 67: 1613-1618.

Andersen, S.M., Jørgensen, C. and **Jacobsen, C.S.** (2000) (21)
Development and utilisation of a medium to isolate phenanthrene-degrading Pseudomonas spp.
Applied Microbiology and Biotechnology 55:112-116.

Andersen, S.M., Johnsen, K., Sørensen, J., Nielsen, P. and **Jacobsen, C.S.** (2000) (20)
Pseudomonas frederiksbergensis sp. nov., isolated from soil at a coal gasification site.
International Journal for Systematic and Evolutionary Microbiology 50:1957-1964.

Tolker-Nielsen, T., Brinch, U.C., Ragas, P.C., Andersen, J.B., **Jacobsen, C.S.** and Molin S. (2000) (19)
Development and dynamics of Pseudomonas sp. biofilms.
Journal of Bacteriology 182: 6482-6489.

Thirup, L., Ekelund, F., Johnsen, K. and **Jacobsen C.S.** (2000) (18)
Population dynamics of the fast-growing sub-populations of Pseudomonas and total bacteria, and their protozoan grazers, revealed by fenpropimorph treatment.
Soil Biology and Biochemistry. 32:1615-1623.

Bjørnlund, L., Ekelund, F., Christensen, S., **Jacobsen, C.S.**, Krogh, P.H. and Johnsen, K. (2000) (17)
Interactions between saprotrophic fungi, bacteria and protozoa on decomposing wheat roots in soil influenced by the fungicide fenpropimorph (Corbel): A field study.
Soil Biology and Biochemistry. 32:967-975.

Ekelund, F., Christensen, S., Rønn, R., Buhl, E. and **Jacobsen, C.S.** (1999) (16)
An automated technique for most-probable-number (MPN) analysis of phagotrophic protozoa with lux AB labelled bacteria as growth medium.
Journal of Microbiological Methods 38:177-183.

Bossi, R., Seiden, P., Andersen, S.M., **Jacobsen, C.S.** and Streibig J.C. (1999) (15)
Analysis of metsulfuron-methyl in soil by liquid chromatografy / tandem mass spectrometry. Application to a field dissipation study.
Journal of Agricultural and Food chemistry 47:4462-4468.

Bossi, R., Vejrup, K. and **Jacobsen, C.S.** (1999) (14)
Determination of sulfonylurea degradation products in soil by liquid chromatography – ultraviolet detection followed by confirmatory liquid chromatography-tandem mass spectrometry.
J. Chromatography A 855:575-582.

Johnsen, K., Enger, Ø., **Jacobsen, C.S.**, Thirup, L. and Torsvik, V. (1999) (13)
Quantitative selective PCR of 16S rDNA correlates well with selective agar plating in describing population dynamics of indigenous Pseudomonas in soil hot spots.
Applied and Environmental Microbiology 65:1786-1788.

Shapir, N., Mandelbaum, R.T. and **Jacobsen, C.S.** (1998) (12)
Rapid atrazine mineralization under denitrifying conditions by Pseudomonas sp. strain ADP in aquifer sediments.
Environmental Science and Technology 32:3789-3792.

Boldt, T. and **Jacobsen, C.S.** (1998) (11)
Different toxic effects of the sulfonylurea herbicides metsulfuron methyl, chlorsulfuron and thifensulfuron methyl on fluorescent pseudomonads isolated from an agricultural soil.
FEMS Microbiology Letters, 161:29-35.

**Jacobsen, C.S.** (1997) (10)
Plant protection and rhizosphere colonization of barley by seed inoculated Burkholderia (Pseudomonas) cepacia DBO1 (pRO101) in 2.4-D contaminated soil.
Plant and Soil 189:139-144.

Johnsen, K., Andersen, S. and **Jacobsen, C.S.** (1996) (9)
Phenotypic and genotypic characterization of phenanthrene degrading fluorescent Pseudomonas Biovars.
Applied and Environmental Microbiology. 62:3818-3825.

Jørgensen, N.O.G. and **Jacobsen, C.S.** (1996) (8)
Bacterial uptake and utilization of dissolved DNA.
Aquatic Microbial Ecology 11:263-270.

Damgaard, P.H., **Jacobsen, C.S.** and Sørensen, J. (1996) (7)
Development and application of a primer set for specific detection of Bacillus thuringiensis and Bacillus cereus in soil using magnetic capture-hybridization and PCR amplification.
Systematic and Applied Microbiology 19:436-441.

Campbell, J.I.A., **Jacobsen, C.S.** and Sørensen, J. (1995) (6)
Species variation and plasmid incidence among fluorescent Pseudomonas strains isolated from agricultural and industrial soils.
FEMS Microbial. Ecology 18:51-63.

**Jacobsen, C.S.** (1995) (5)
Rapid microscale detection of specific bacterial DNA in soil using magnetic capture-hybridization and polymerase chain reaction amplification assay (MCH-PCR).
Applied and Environmental Microbiology 61(9):3347-3352.

Pedersen, J.C. and **Jacobsen, C.S.** (1993) (4)
Fate of Enterobacter cloacae JP120 and Alcaligenes eutrophus AEO106(pRO101) in soil during water stress: Effects on culturability and viability.
Applied and Environmental Microbiology. 59(5):1560-1564.

**Jacobsen, C.S** and Rasmussen, O.F. (1992) (3)
Development and application of a new method to extract bacterial DNA from soil based on separation of bacteria from soil with cation-exchange resin.
Applied and Environmental Microbiology. 58(8):2458-2462.

**Jacobsen, C.S**. and Pedersen, J.C. (1992) (2)
Mineralization of 2.4-dichlorophenoxyacetic acid (2,4-D) in soil inoculated with Pseudomonas cepacia DBO1(pRO101), Alcaligenes eutrophus AEO106(pRO101) and Alcaligenes eutrophus JMP134(pJP4); effects of inoculation level and substrate concentration.
Biodegradation. 2:253-263.

**Jacobsen, C.S.** and Pedersen, J.C. (1992) (1)
Growth and survival of Pseudomonas cepacia DBO1 (pRO101) in soil amended with 2.4-dichlorophenoxyacetic acid.
Biodegradation. 2:245-252.

## Patents

Bælum, J. and **Jacobsen, C.S.** (2010)
IMPROVEMENT OF LOW-BIOMASS SOIL DNA/RNA EXTRACTION YIELD AND QUALITY (WO/2010/146026)

Bender, M. and **Jacobsen, C.S.** (PA 2003 01018)
Method for selective detection of a target nucleic acid

Karlson, U., Uotila, J.S. and **Jacobsen, C.S.** (2000)
Anvendelse af planter med inokulerede mikroorganismer til jordrensning.

## Chapters in international books

**Jacobsen, C.S.** (2004)
Purification of microbial genes from soil and rhizosphere by magnetic capture hybridization and subsequent amplification of target genes by PCR. Molecular Microbial Ecology Manual 2nd Ed; 1.4.1:1-8; Kluwer Academic Publishers.

**Jacobsen, C.S.** (2004)
Detection and quantification of microbial DNA sequences in soil by southern- and dot/slot blot hybridization. Molecular Microbial Ecology Manual 2nd Ed; 2.4.2:1-11; Kluwer Academic Publishers.

**Jacobsen, C.S.** and Gayazov R.R. (1997)
Microbial ecology of contaminated sites.
In: Scozzafava, A. & Wild, J. (eds.): Perspectives in Bioremediation. NATO ASI series; Kluwer Academic Publishers. (13-24).

**Jacobsen, C.S.** (1996)

Detection and quantification of microbial DNA sequences in soil by southern- and dot/slot blot hybridization.
In: Akkermans, A.D.L., J.D. van Elsas & F.J. de Bruijn. (eds.): Molecular Microbial Ecology Manual; 2.4.2:1-11; Kluwer Academic Publishers.

**Jacobsen, C.S.** (1996)
Detection of microbial genes from the rhizosphere by magnetic capture hybridization and subsequent amplification of target genes by PCR.
In: Akkermans, A.D.L., J.D. van Elsas & F.J. de Bruijn. (eds.): Molecular Microbial Ecology Manual; 1.4.1:1-8; Kluwer Academic Publishers.

## Papers in international proceedings

Hestbjerg, H., Willumsen, P.A. Christensen, M., Andersen, O. and **Jacobsen, C.S.** (2002)
Field scale bioremediation of tar contaminated soil with commercial mushroom Pleurotus ostreatus refuse.
In Brebbia CA. Ed. Oil and hydrocarbon spills III. Modelling, analysis and control. Southampton: WIT press 2002.

Jørgensen, C., Aamand, J., Jensen, B.K., Nielsen, S.D. and **Jacobsen, C.S.** (1995)
Microbial properties governing the microbial degradation of polycyclic aromatic hydrocarbons.
In: M. Moo-Young et al. (eds.): Environmental Biotechnology: Principles and Applications, 178-192, Kluwer Academic Publishers.

**Jacobsen, C.S**. and Pedersen, J.C. (1992)
Growth, activity and genetic stability of 2,4-D degrading bacteria in natural soils.
In: Soil Decontamination Using Biological Processes. pp 83-90.

Jensen, E.H., **Jacobsen, C.S.** and Helweg, A. (1989)
Atrazine leaching in two Danish soils.
In: Durrant & Ferris (eds.): Proceedings of the 3rd National Workshop on Persistence of Herbicide Residues in Wheat Cropping Systems in Australia, 39-46, ISBN 0 7305 6600 5.

## Non refereed publications

Anesio, A and **Jacobsn, C.S.** (2022) Hvorfor bliver Indlandsisen sort? Videnskab.dk DOI: 10.25973/DN39-ZN22

**Jacobsen, C.S.** (2018) NoNewBAM – er jordherbicidet diflufenican en trussel for grundvandet ved anvendelse på udyrkede urbane arealer? ATV Jord og Grundvand – nyt om pesticider – undersøgelser og afværge. 20. Juni 2018, Schæffergården.

Pedersen, Anders Branth; Bester, Kai; Gyldenkærne, Steen; Hasler, Berit; Nielsen, Helle Ørsted; Hendriksen, Niels Bohse; Johansen, Anders; Bossi, Rossana; Lassen, Pia**; Jacobsen, Carsten Suhr.** (2016)

Input til Pesticidstrategi 2017-2020 : Notat fra DCE - Nationalt Center for Miljø og Energi.. 4 s., apr. 26, 2016.

Bælum, J., Nicolaisen, M.H., Sørensen, J. and **Jacobsen, C.S.** (2010)
Bestemmelse af aktiviteten af specifikke mikrobielle phenoxysyre-pesticid nedbrydere. In Danish, P21-29. ATV Jord og Grundvand – naturlig og stimuleret biologisk nedbrydning – processor og mikrobiologi. 21. April 2010, Schæffergården.

**Jacobsen, C.S.** Bælum, J. Scheutz, C. og Broholm, M. (2010)
Mikrobiel dechlorering af TCE - molekylære teknikker til bestemmelse af tilstedeværelse og aktivitet af specifikke nedbrydere. In Danish, P31-38. ATV Jord og Grundvand – naturlig og stimuleret biologisk nedbrydning – processor og mikrobiologi. 21. April 2010, Schæffergården.

Nicolaisen, M.H.; Bælum, J.; **Jacobsen, C.S.**; Sørensen, J. (2007)
Transcriptional analysis of the functional *tdfA* gene in *Ralstonia eutropha* AEO106(pRO101) during MCPA herbicide degradation in natural soil and rhizosphere. Rhizosphere symposium – Montpellier, France.

Forslund, A. **Jacobsen, C.S.**, Jacobsen, O.S. and Dalsgaard, A (2007)
Gylle truer grundvandet, Aktuel Naturvidenskab 2007,3:4-6.

**Jacobsen, C.S.**, Sørensen, S.R., Juhler, R.K., Brüsch, W. and Aamand,J. (2005)
Emerging contaminants in Danish groundwater. Danmarks og Grønlands Geologiske Undersøgelse Rapport 2005/49.

**Jacobsen, C.S.**, Elmholt, S., Jensen, C.B., Jakobsen, P.B. and Bender M (2005)
Steam treatment of contaminated groundwater aquifers development of pathogenic micro-organisms in soil Review of Survey activities 2004, pp. 37-40.

Nygaard, E., Ernstsen, V., **Jacobsen, C.S.**, Jacobsen, O.H., Jacobsen, O.S., Juhler, R.K., Keur, P.v.d., Olesen, S.E., Rasmussen, J., Rosenberg, P. & Vosgerau, H. (2005)
Umættet zones effekt overfor udvaskning af pesticider. Geologisk Tidsskrift 02/2005, 15-17.

The following 8 reports from GEUS the authors are ordered alphabetic (I did the editing for three of them):

Barlebo, H.C., Brinch, U.C., Elsgaard, L., Ernstsen, V., Greve, M.H., Iversen, B.V., **Jacobsen, C.S.**, Jacobsen, O.H., Jakobsen, P.R., Juhler, R.K., Møller, I., Rasmussen, J., Torp, S., Vinther, F.P. and Vosgerau, H (2005)
Morænesand af Saale alder inden for bakkeøer: Basisdata fra Skovbjerg og Esbjerg bakkeøer. Koncept for Udpegning af Pesticidfølsomme Arealer, Rapport nr. 5. Danmarks og Grønlands Geologiske Undersøgelse & Danmarks JordbrugsForskning. København, 150 s.

Barlebo, H.C., Brinch, U.C., Elsgaard, L., Ernstsen, V., Greve, M.H., Iversen, B.V., **Jacobsen, C.S.**, Jacobsen, O.H., Jakobsen, P.R., Juhler, R.K., Møller, I., Rasmussen, J., Torp, S., Vinther, F.P. and Vosgerau, H. (2005)
Morænesand af Weichsel alder inden for moræneflader: Basisdata fra Djursland og Himmerland. Koncept for Udpegning af Pesticidfølsomme Arealer, Rapport nr. 6.

Danmarks og Grønlands Geologiske Undersøgelse & Danmarks JordbrugsForskning. København, 134 S.

Barlebo, H.C., Brinch, U.C., Elsgaard, L., Ernstsen, V., Greve, M.H., Iversen, B.V., **Jacobsen, C.S.**, Jacobsen, O.H., Juhler, R.K., Møller, I., Olesen, S.E., Rasmussen, J., Torp, S., Vinther, F.P. and Vosgerau, H. (2005)
Senglacial marint sand ingen for Yoldia fladen: Basisdata fra Vendsyssel. Koncept for Udpegning af Pesticidfølsomme Arealer, Rapport nr. 3. Danmarks og Grønlands Geologiske Undersøgelse & Danmarks JordbrugsForskning. København, 139 s.

Barlebo, H.C., Brinch, U.C., Elsgaard, L., Ernstsen, V., Greve, M.H., Iversen, B.V., **Jacobsen, C.S.**, Jacobsen, O.H., Juhler, R.K., Møller, I., Rasmussen, J., Torp, S., Vinther, F.P. and Vosgerau, H (2005)
Ekstramarginale smeltevandsaflejringer af Sen Weichsel alder inden for alluvialkeglen: Basisdata fra Karup og Tinglev hedesletter. Koncept for Udpegning af Pesticidfølsomme Arealer, Rapport nr. 4. Danmarks og Grønlands Geologiske Undersøgelse & Danmarks JordbrugsForskning. København, 151 s.

Barlebo, H.C., Brinch, U.C., Elsgaard, L., Ernstsen, V., Greve, M.H., Iversen, B.V., **Jacobsen, C.S.**, Jacobsen, O.H., Juhler, R.K., Møller, I., Rasmussen, J., Torp, S., Vinther, F.P. and Vosgerau, H. (2005)
Ekstramarginalt smeltevandssand af Sen Weichsel alder inden for den distale del af smeltevandssletten: Basisdata fra Karup og Tinglev hedesletter. Koncept for Udpegning af Pesticidfølsomme Arealer, Rapport nr. 7. Danmarks og Grønlands Geologiske Undersøgelse & Danmarks JordbrugsForskning. København, 128 s.

Barlebo, H.C., Brinch, U.C., Elsgaard, L., Ernstsen, V., Greve, M.H., Iversen, B.V., **Jacobsen, C.S.**, Jacobsen, O.H., Juhler, R.K., Møller, I., Rasmussen, J., Torp, S., Vinther, F.P. and Vosgerau, H. (2005)
Ekstramarginalt smeltevandssand af Sen Weichsel alder inden for den proximale del af smeltevandssletten: Basisdata fra Karup og Tinglev hedesletter. Koncept for Udpegning af Pesticidfølsomme Arealer, Rapport nr. 8. Danmarks og Grønlands Geologiske Undersøgelse & Danmarks JordbrugsForskning. København, 126 s.

Barlebo, H.C., Brinch, U.C., Elsgaard, L., Ernstsen, V., Iversen, B.V., **Jacobsen, C.S.**, Jacobsen, O.H., Juhler, R.K., Møller, I., Rasmussen, J., Torp, S., Vinther, F.P. and Vosgerau, H. (2005)
Glaciale smeltevandsaflejringer af Saale alder inden for bakkeøer: Basisdata fra Skovbjerg og Esbjerg bakkeøer. Koncept for Udpegning af Pesticidfølsomme Arealer, Rapport nr. 9. Danmarks og Grønlands Geologiske Undersøgelse & Danmarks JordbrugsForskning. København, 69 s.

Barlebo, H.C., Brinch, U.C., Ernstsen, V., Greve, M.H., Iversen, B.V., **Jacobsen, C.S.**, Jacobsen, O.H., Jakobsen, P.R., Juhler, R.K., Møller, I., Rasmussen, J., Torp, S. and Vosgerau, H. (2005)
Morænesand af Weichsel alder indenfor moræneflader: Basisdata fra Vendsyssel. Koncept for Udpegning af Pesticidfølsomme Arealer, Rapport nr. 10. Danmarks og Grønlands Geologiske Undersøgelse & Danmarks JordbrugsForskning. København, 59 s.

**Jacobsen, C.S.**, Lipthay, J., Bender, M., Fredslund, L., Johnsen, A.R. and Johnsen, K (2004)

Direct analysis of microbial populations in soil and freshwater aquifers by using nucleic acid based techniques. Nr. 4, Review of Survey activities 2003, pp. 33-36.

Bender, M., Elmholt, S., Madsen, A-M. and **Jacobsen, C.S.** (2004)
Results form microbiological survey of stream-treated soil in Hedehusene. Results from sampling 2003 (in Danish). Danmarks og Grønlands Geologiske Undersøgelse, Rapport 2004/43.

**Jacobsen, C.S.** (2003)
Slutrapport BIOPRO. Center for biologiske processer i forurenet jord og Sediment. Det strategiske Miljøforskningsprogram 1998 - 2002. Danmarks og Grønlands Geologiske Undersøgelse Rapport 2003/31.

Bender, M., Felding, G. and **Jacobsen, C.S.** (2003)
Global forurening af den grønlandske indlandsis med miljøfremmede stoffer og tilstedeværelsen af levedygtige mikrobielle kim. Danmarks og Grønlands Geologiske Undersøgelse Rapport 2003/64.

Bender, M., Felding, G. and **Jacobsen, C.S.** (2003)
Drikkevandskvalitet af grønlandsk indlandsis. Danmarks og Grønlands Geologiske Undersøgelse, rapport 2003/26.

Bender, M., Felding, G. and **Jacobsen, C.S.** (2003)
Water quality of the Greenland ice-cap. Danmarks og Grønlands Geologiske Undersøgelse, rapport 2003/22.

**Jacobsen, C.S.**, Brinch, U.C., Juhler, R., Jacobsen, O.S., Rosenberg, P., van de Keur, P., Nygaard, E., Barlebo, H.C., Vosgerau, H., Iversen, B.V., Vinther, F., Elsgaard, L., Olesen, S.E., Torp, S., Greve, M. and Jacobsen, O.H. (2003)
Mapping of areas sensitive to pesticide leaching in sandy parts of Denmark (in Danish). DJF rapport nr. 89: 169-179.

**Jacobsen, C.S.** (2002)
Den biologiske aktivitet i forurenede jorde og kystsediment. Miljøforskning 53:4.

**Jacobsen, C.S.,** Christensen, M., Willumsen, P., Krogh, P.H., Ekelund, F., Binderup, M.-L., Bender, M., Hestbjerg, H., Andersen, M.P., Elmholt, S.,and Andersen, O. (2002)
Biologisk oprensning af tjæreforurenet jord med almindelig Østershat – et fælles feltforsøg. Miljøforskning 53:5-7.

Hestbjerg, H., Willumsen, P.A., Christensen, M., Andersen, O. and **Jacobsen, C.S.** (2002)
Hvidmuldssvampe på tjeneste i forureningsbekæmpelse. BIOPRO session ved ATV vintermøde om jord og grundvandsforurening.

Brinch, U.C., Ekelund, F. and **Jacobsen, C.S.** (2002)
Kunstig forurening af laboratoriejord kan medføre markant ændrede mikrobiologiske forhold. BIOPRO session ved ATV vintermøde om jord og grundvandsforurening.

Vinther, F.P., Elsgaard, L., Brinch, U.C. and **Jacobsen, C.S.** (2001)
Variation i mikrobiologi, pesticidmineralisering og –sorption på en mark. ATV møde om geologisk heterogenitet.

**Jacobsen, C.S.** (2001)
Undersøgelse af bakterielle kimtal i Grønlands indlandsis. Danmarks og Grønlands Geologiske Undersøgelse, rapport nr. 2000/67.

**Jacobsen, C.S.**, Andersen, S.M., Mortensen, H.S., Bossi, R. and Streibig, J.C. (2000)
Nedbrydning af lavdosis- herbicider i danske jorde. Naturens Verden – særnummer om pesticider. Feb. 2000.

**Jacobsen, C.S.** (1999)
Pesticidsubstitution, minimidler som grundvandsforureningsproblem. ATV Jord og Grundvand møde nr. 78.

**Jacobsen, C.S.** (1999)
Center for biologiske processer i forurenet jord og sediment (BIOPRO) /Centre for biological processes in polluted soil and sediment. Pjece/Leaflet for BIOPRO.

**Jacobsen, C.S.** (1999)
Den biologiske aktivitet i forurenede jorde og kystsediment. Miljøforskning 38:17-22.

**Jacobsen, C.S.** (1998)
Mikrobiologi og geologi – et ekspanderende forskningsområde. Danmarks og Grønlands Geologiske Undersøgelse Eds: Binzer and Dinesen.

**Jacobsen, C.S.**, Lindhardt, B. and Brüsch, W. (1998)
Vurdering af risikoen for udvaskning af pesticider fra befæstede arealer, Danmarks og Grønlands Geologiske Undersøgelse Rapport 1998/55.

**Jacobsen, C.S.**, Helweg, A. and Spliid, N.H. (1998)
Glyphosat og AMPA i jord. 15. Danske Planteværnskonference, DJF rapport nr 2 (1998), 17-25.

Jørgensen, C and **Jacobsen, C.S.** (1997)
Bakteriel nedbrydning af PAH i forurenet jord. Populations- og substratdynamik. Miljøforskning 33:41-45.

Jensen, E.H., **Jacobsen, C.S.** and Helweg, A. (1988)
Binding og udvaskning af atrazin i to danske jordprofiler. 5. Danske Planteværnskonference, 33-44.

## Abstracts of oral or poster presentations (not complete)

Ellegaard-Jensen, L., Zervas, A., Anwar, M.Z., **Jacobsen, C.S**. (2023) Optimizing Total RNA sequencing for elucidation of the active microbial community of agricultural soil. Bageco 2023, Copenhagen

Martinez, M.G., Galen, E.I., Andersen, S., Jørgensen, E.F., Ellegaard-Jensen L.; Zervas, A., **Jacobsen, C.S**., Flemming Ekelund, F., Laursen, K.H. Kjøller, R. (2023) Revealing the contributions of the belowground plant-root associated microbiome to soil aggregation in agricultural soils EGU General Assembly, Vienna, Austria, 23/04/2023

Scheel, M. Zervas, A., **Jacobsen, C.S.**, Christensen, T.R (2022) Erosion of ancient Arctic permafrost: transcriptomics reveals microbiome changes ISME 18 Lausanne August 2022.

Scheel, M. Zervas, A., **Jacobsen, C.S.**, Christensen, T.R (2022) Should I grow or should I go? EGU General Assembly 2022, Vienna, Austria, 23/05/2022

Scheel, M. Zervas, A., **Jacobsen, C.S.**, Christensen, T.R (2021) Microbial comparative transcriptomics in abruptly thawing Greenlandic permafrost. AGU Fall meeting, New Orleans December 2021

Scheel, M., Christensen, T.R., Rundgren, M., **Jacobsen, C.S**. Zervas, A. (2020) Microbial life in collapsing permafrost in NE Greenland EGU: General assembly 2020, Vienna, Austria, 03/05/2020

Svendsen, S.B.; Carvalho, P.N.; Bollmann, U.E.; Ellegaard-Jensen, L.; Albers, C.N.; Strobel, B.W.; Jacobsen, C.S.; Bester, K. (2019) Sorption and degradation of diflufenican in the urban environment. Abstract from SETAC Europe, Helsinki, Finland.

Carvalho, P.N.; Svendsen, S.B.; Albers, C.N.; Jacobsen, O.S.; Bester, K.; Jacobsen, C.S. (2019) NoNewBAM: diflufenican degradation and potential leaching. Abstract from the 13th Dansih Water Forum – Water Research Conference – University of Copenhagen, Copenhagen, Danmark.

Anwar, M.Z.; Lanzen, A.; Bang-Andreasen, T.; Jacobsen, C.S. (2018) Standardized and Validated Workflow for Comparative Metatranscriptomics. Poster at ISME 17 – 17th International Symposium on Microbial Ecology.

Anwar, M.Z.; Jacobsen, C.S. (2018) Benchmarking and Standardizing Comparative Metatranscriptomics Workflow. Poster at Danish microbiological society Congress.

Christensen, S.; Ekelund, F.; Kjøller, R.; Vestergård, M.; Johansen, J.; Mortensen, L.H.; Paredes, C.C.; Andreasen, T.; Ingerslev, M.; Hansen, M.; Krogh, P H; Qin, J.; Hovmand, M.F.; Skov, S.; Maresca, A.; Astrup, T.F.; Jacobsen, C.S.; Findsen, D.E.; Kindtler, N.L.; Nielsen, M.L. (2018) Cd toxicity in Ash amended to plantations; the dilemma of different answers at different levels of description. : Poster at European Geosciences Union General Assembly 2018.

Johansen, A.; Jacobsen, C.S. (2016) Monitoring the potential for microbial degrading of chlorinated ethenes in soil aquifers. Poster at 10th Annual Water Research Meeting of DWF, Copenhagen Denmark.

Hauptmann, A.L.; Markussen, T.N.; Stibal, M.; Olsen, N.S.; Elberling, B.; Bælum, J. ; Sicheritz-Ponten, T.; Jacobsen, C.S.. (2016). Bacterial communities hitching a hike - a guide to the river system of the Red river, Disko Island, West Greenland. / Poster at The Annual Congress of The Danish Microbiological Society - Copenhagen, Denmark, Copenhagen, Denmark.

Bang-Andreasen, T.; Toftgaard Nielsen, J. ; Hansen, H.C.B.; Rønn, R.; Voriskova, J. ; Heise, J.; Lanzen, A.; Jacobsen, C.S. (2016) Bacterial community response in forest soil treated with wood ash assayed by 16S community analysis and metatranscriptomics. / Poster at ISME Conference 2016, Montreal, Canada.

Toftgaard Nielsen , J.; Bang-Andreasen, T.; Jacobsen, C.S. (2016). Circular Resource Flow of Wood Ash into Forest Can Have Detrimental Effects on Soil Bacterial Community. / Poster at ASM Microbe, Boston, US

Bang-Andreasen, T.; Schostag, M.; Elberling, B.; Priemé, A.; Jacobsen, C.S. (2016). Detection of microbial contamination in permafrost samples by RNA-seq and quantification of depth of contamination by tracers. / Poster at ISME Conference 2016, Montreal, Canada.

Schostag, M.; Jacobsen, C.S.; Larose, C.; Vogel, T.; Maccario, L.; Faucherre, S.; Priemé, A. (2016). Metatranscriptomic analysis indicates microbial activity in active layer permafrost during thawing and freezing. / Poster at The Annual Congress of The Danish Microbiological Society - Copenhagen, Denmark, Copenhagen, Denmark.

Johansen, A.; Browne, P.D.; Christensen, L.D.; Jacobsen, C.S.; Mørkebjerg-Fischer, L. (2016). Microbiota in bio-gas filters for cleaning groundwater polluted with chlorinated solvents. / Poster at The Annual Congress of The Danish Microbiological Society - Copenhagen, Denmark, Copenhagen, Denmark.

Bang-Andreasen, T.; Rønn, R.; Lanzen, A.; Jacobsen, C.S. (2015) Responses in Active Microbial Communities and Expression of Important Functional Genes in Forest and Agricultural Field Soil after Wood Ash Addition Revealed by Metatranscriptomics. / Poster at Ecology of Soil Microorganisms, Prague, Czech Republic.

Bang-Andreasen, T.; Rønn, R.; Lanzen, A.; Jacobsen, C.S. (2015). Responses in Active Microbial Communities and Important Functional Genes in Forest and Agricultural Field Soil after Wood Ash Addition Revealed by Metatranscriptomics. Poster at The Annual Congress of The Danish Microbiological Society, Copenhagen, Denmark.

Bang-Andreasen, T.; Rønn, R.; Lanzen, A.; Jacobsen, C.S. (2015). Responses in Active Microbial Communities and Important Functional Genes in Forest and Agricultural Field Soil after Wood Ash Addition Revealed by Metatranscriptomics. Poster at PhD day 2015, Copenhagen, Denmark.

Hjelmsø, M.H; Feld, L; Hansen, L.H.; Jacobsen, C.S. (2013). High Precision Melting Curve: a novel method for fast screening of environmental samples for changes in bacterial phylogenetic composition prior to deep sequencing. Poster at American Society for Microbiology (ASM), Denver, US.

Paulin, M M ; Nicolaisen, M.H.; Jacobsen, C.S.; Gimsing, A.L.; Sørensen, J.; Bælum, J. (2012) A revised RNA and DNA co-extraction protocol for quantification of microbial gene

expression from problematic soils and sediments. Poster at International Society of Microbial Ecology , Copenhagen, Denmark.

Bech, T B; Sbodio, A; Jacobsen, C.S.; Suslow, T. (2012) Attachment and run-off of E.coli sp. and Salmonella sp. under influence of polyacrylamide. Poster at International Society of Microbial Ecology , Copenhagen, Denmark.

Jacobsen, C.S.; Nielsen, T.K.; Bælum, J. (2012). DNA sorption blocker “G2” increase DNA recovery from subsoil clay sediment >1.000 times. Poster at International Society of Microbial Ecology , Copenhagen, Denmark.

Stibal, M.; Bælum, J.; Holben, W E; Sørensen, S.R; Jensen, A.; Jacobsen, C.S. 2012. Exploring the functional diversity of the supraglacial environment: Microbial degradation of the pesticide 2,4-D on the Greenland Ice Sheet. / Poster at AGU Fall Meeting, San Francisco, US.

Bech, T B; Amin, M; Olsen, P.; Kjær, J.; Jacobsen, C.S. (2012). Leaching and survival of tetracycline resistant bacteria in field scale experiments. / Poster at International Society of Microbial Ecology, Copenhagen, Denmark.

Stibal, M.; Bælum, J.; Holben, W E; Sørensen, S.R; Jensen, A.; Jacobsen, C.S. 2012. Microbial degradation of the pesticide 2,4-D on the Greenland Ice Sheet. / Poster at International Society of Microbial Ecology , Copenhagen, Danmark.

Hjelmsø, M.H; Feld, L; Hansen, L.H.; Jacobsen, C.S. (2012). “High Precision Melting Curve”: a novel method for fast screening of environmental samples for changes in bacterial phylogenetic composition prior to deep sequencing. Poster at International Society of Microbial Ecology, Copenhagen, Danmark.

Nicolaisen, M.H.; Bælum, J.; Paulin, M M.; Gimsing, A.L.; Sørensen, J.; Jacobsen, C.S. (2011). Improving the Griffith method for mRNA and DNA extraction from high clay and low biomass soils. / Poster at BAGECO 11, Corfu, Greece.

Bech, T B; Amin, M; Olsen, P.; Kjær, J.; Jacobsen, C.S. (2011). Leaching of tetracycline resistant bacteria from pig manure applied to two field sites. Poster at BIOMICROWORLD 2011, Torremolinas, Spain.

Bælum, J.; Scheutz, C; Broholm, B; Jacobsen, C.S. (2010). Expression of the vcrA gene involved in TCE dechlorination in batchexperiments with clayey till sediments. Poster at ISME 13, 13th International Symposium on Microbial Ecology, Seattle, USA.

Bælum, J.; Scheutz, C; Broholm, M; Jacobsen, C.S. (2010). Extraction of nucleic acids from trichloroethene (TCE) degrading bacteria in extremely clayey groundwater sediments. Poster at American Society of Microbiology (ASM), San Diego, US.

Linnetved, H I; Johnsen, A. R.; Henriksen, P.; Jacobsen, C.S. (2010). Microbial ecology of fuel degradation in soil from high-arctic Greenland at low temperatures. Poster at ISME 13, 13th International Symposium on Microbial Ecology, Seattle, USA.

Bælum, J.; Jacobsen, C.S. (2009). A TAQMAN® probe based RealTime PCR assay for detection and discrimination of class I-III tfdA genes in soils treated with phenoxy acid herbicides. Poster at BAGECO 10, Uppsala, Sverige.

Bech, T.B.; Forslund, A; Jacobsen, O.S.; Dalsgaard, A.; Lægdsmand, M.; Jacobsen, C.S. (2009). Comparing CFU data with RealTime PCR targeting invA DNA in leachate from intact clay columns. / Poster at BAGECO 10, Uppsala, Sverige.

Bælum, J.; Jensen, C.M.; Brochmann, R; Scheutz, C; Jacobsen, C.S. (2009). Dynamics of microbial populations in TCE contaminated groundwater sediment. / Poster at BAGECO 10, Uppsala, Sverige.

Bælum, J.; Scheutz, C; Broholm, M; Jacobsen, C.S. (2009). Extraction of nucleic acids from trichloroethene (TCE) degrading bacteria in extremely clayey groundwater sediments. / Poster at BioMicroWorld, Lisabon, Portugal.

Fredslund, L; Nguyen, O. T. P.; de los Santos, P. E.; Sørensen, J.; Jacobsen, C.S.; De Mot, R.; Springael, D. (2009). Identification of genes involved in phenanthrene-directed surface motility in Pseudomonas stutzeri strain E1. / Poster at BAGECO 10, Uppsala, Sverige.

Jensen, A.; Bælum, J.; Albers, C N; Jacobsen, C.S. (2009) Inhibition of 6 different enzymes used in RealTime PCR by 6 different humic substances. /. Poster at BAGECO 10, Uppsala, Sverige.

Jacobsen, C.S.; Bech, T B ; Amin, M; Garcia, R; Bælum, J.; Fredslund, L; Kjaer, J.; Forslund, A; Popovic, O; Bui, T. X. ; Bang, D.D.; Lægdsmand, M.; Jensen, L.S.; Santorum, P; Dalsgaard, A. (2009). Leaching of pathogens from manure to drainage water – assayed using classic and DNA/mRNA based methods. / Poster at BioMicroWorld, Lisabon, Portugal.

Sørensen, S.R.; Johnsen, A.R.; Jensen, A.; Jacobsen, C.S. (2009). Presence and activity of hydrocarbon-degrading microbial populations in contaminated soils from an airfield in the Greenland high arctic. / Poster at BAGECO 10, Uppsala, Sverige.

Glæsner, N.; Bælum, J.; Jacobsen, C.S.; Magid, J. 2009. Quantification of total bacterial biomass by RealTime PCR in soil and soil leachates. / Poster at BAGECO 10, Uppsala, Sverige.

Forslund, A.; Tønner-Klank, L.; Beck, T.; Jacobsen, C.S.; Dalsgaard, A. (2009). Transport and survival of *Salmonella* Typhimurium bacteriophage 28B and *Cryptosporidium pavum* from slurry applied to intact clay soil cores. / Poster session at FEMS 2009 - 3rd Congress of European Microbiologists, Gothenburg, Sverige.

Bælum, J.; Strobel, B.W.; Nicolaisen, M.H.; Holben, W E; Sørensen, J.; Jacobsen, C.S. (2008). Analyzing transcripts of the functional gene tfdA in natural soil microbial populations involved in degradation of MCPA and 2.4-D through quantitative RT-PCR of directly extracted mRNA. / Poster at ASM general meeting, Boston, USA.

Gimsing, A.L.; Dayan, F.E.; Locke, M.; Bælum, J.; Sejerø, L.; Jacobsen, C.S. (2008). Mineralization of Sorgoleone, a Phytotoxic Compound Produced by Sorghum, in Soil. / Poster at 5$^{th}$ SETAC World Congress, Program Book: Protecting Our Global Environment, Sydney, Australien.

Gimsing, A.L.; Dayan, F.; Bælum, J.; Jacobsen, C.S. (2008). Mineralization of Sorgoleone, an Allelochemical Produced by Sorghum, in Soil. / Abstract at 5$^{th}$ World Congress on

Allelopathy: Growing Awareness of the Role of Allelopathy in Ecological, Agricultural, and Environmental Processes, Saratoga Springs, USA.

Garcia, R; Bælum, J.; Fredslund, L; Santorum, P; Jacobsen, C.S. (2008). Salmonella spp. Survival in soil and manure assayed using classic and DNA/mRNA based methods – the role of predation and soil temperature. / Conference on Antimicrobial Resistence in Zoonotic Bacteria and Foodborne Pathogens , Copenhagen, Danmark.

Bælum, J.; Jacobsen, C.S.; Holben, W E. (2007). Functional diversity in a culture collection of 2,4-dichlorophenoxyacetic (2,4-D) acid degraders. / Poster at BAGECO 09, Wernigerode, Tyskland.

Calov, G; Holben, W E; Callaway, R M; Jacobsen, C.S. (2007). Microbial communities in autoclaved recolonized and natural soils influenced by Centaurea maculosa and two north american natives. / Poster at 9th International Conference on the Ecology and Management of Alien Plant Invasions, Perth, Australien.

Bender, M.; Holben, W E; Sørensen, S J ; Jacobsen, C.S. (2007). PNA inhibitory probes can replace DNAse in RT-PCR. / Poster at Cambrigde Healttech Institutes Third Annual Quantitative PCR, San Diego, USA.

Knattrup, S; Jacobsen, C.S.; Scheutz, C; Holm, P.E. (2007). Quantification of Dehalococcoides sp. by use of Real-Time PCR in Groundwater Aquifers in a Field Trial. / Poster at ASM 107th annual meeting, Toronto, Canada.

Bælum, J.; Jacobsen, C.S. (2006). Analysis of geneexpression and functional diversity in the tfdA gene among 4-chloro-2methylphenoxyacetic acid (MCPA) degraders in soil. / Poster at 11th International Symposium on Microbial Ecology, Wien, Austria.

Bech, T B; Jacobsen, C.S.; Dalsgaard, A.; Jacobsen, O H; Lægdsmand, M. (2006). Leaching of Salmonella sp. through large undisturbed soil monoliths. /. Poster at 11th International Symposium on Microbial Ecology, Wien, Austria.

Rodriguex-Cruz, M S; Shi, S; Sørensen, S R ; Jacobsen, C.S.; Bending, G.D. (2006). Spatial variability of mecoprop-p biodegradation in subsoil and topsoil. / Poster at Pesticide Behaviour in Soils, Water and Air, Warwick, Storbritannien.

Fredslund, L; Sniegowski, Kristel; Nguyen, O.; Jacobsen, C.S.; De Mot, R; Springael, D.; Breugelmans, P. (2006). The PAH-degrading mycobacterium gilvum VM552 displays accelerated sliding motillity in the presence of phenanthrene. / Poster at 11th International Symposium on Microbial Ecology, Wien, Østrig.

Jacobsen, C.S.; Holben, W E. (2005). Quantification of Salmonella sp. invA mRNA in soil and chicken manure using magnetic capture hybridization RT-PCR. / Poster at BAGECO 08, Lyon, France.

Jacobsen, C.S.; Holben, W E. (2005). Quantification of Salmonella sp. invA mRNA in soil and chicken manure using magnetic capture hybridization RT-PCR. / Poster at American Society for Microbiology 103th general meeting , Atlanta, USA.

Bender, M.; Brinch, U.C.; Jacobsen, C.S. (2004). Bacterial transport in high and low organic soils. / Poster at International Symposium on Microbial Ecology, Cancun, Mexico.

Mortensen, S K; Jacobsen, C.S. (2004). Frozen storage of soil – functional changes. / Poster at International Symposium on Microbial Ecology, Cancun, Mexico.

Fredslund, L; Byttebier, K; De Mot, R; Jacobsen, C.S.; Springael, D. (2004). Occurrence of bacterial chemotaxis towards phenanthrene in two polycyclic aromatic (PAH) contaminated soils. / Poster at International Symposium on Microbial Ecology, Cancun, Mexico.

Bender, M.; Holben, W E; Sørensen, S J; Jacobsen, C.S. (2004). PNA inhibitory probes sort the wheat from the chaff in RT-PCR. / Poster at International Symposium on Microbial Ecology, Cancun, Mexico.

Bender, M.; Holben, W E; Sørensen, S J; Jacobsen, C.S. (2004). Use of a PNA probe to block DNA mediated PCR product formation in RT-PCR. / Poster at 102th American Society for Microbiology general meeting, New Orleans, US.

Vaclavik, E.; Andersen, S.M.; Jacobsen, C.S. (2001). Bioremediation of triazine contaminated groundwater using bacteria immobilized on zeolite. / Poster at 9th International Symposium on Microbial Ecology, Amsterdam, Holland.

Jacobsen, C.S.; Hestbjerg, H.; Krogh, P.H.; Ekelund, F. (2001). Field application of commercial mushroom refuse containing biodegrading Pleurotus ostreatus: Populations dynamics of bacteria, protozoa, fungi, springtail & mites. / Poster at SETAC Europe 2001, Copenhagen , Denmark.

Andersen, M.P.; Nielsen, T.; Brinch, U.C.; Hestbjerg, H.; Hansen, H.C.B.; Jacobsen, C.S. (2001). Optimizing pyrene degradation using refuse from Pleurotus ostreatus production. / Poster at 6th International In Situ and On Site Bioremediation Symposium, San Diego, USA.

Brinch, U.C.; Ekelund, F.; Jacobsen, C.S. (1999). Artificial contamination of soil with PAH´s leads to unwanted changes in composition of bacterial and protozoan populations. / Poster at International Symposium on Bacterial Genetics and Ecology (BAGECO-6), Italien.

Shapir, N.; Mandelbaum, R T ; Jacobsen, C.S. (1999). Detection of atzA, B and C genes belonging to the atrazine mineralization pathway using MCH-PCR. / Poster at International Conference on Modern Agriculture and Environmental Quality, Jerusalem, Israel.

Johnsen, K.; Thirup, L.; Ekelund, F.; Torsvik, V.; Enger, Ø.; Spliid, N. H.; Jacobsen, C.S. (1998). Microbial succession on barley roots under degradation in soil. / Poster at International Symposium on Microbial Ecology (ISME-8), Halifax, Canada.

Jacobsen, C.S.; Naesbye, M. (1998). Short peptide nucleic acids (PNA) in sequence specific purification of DNA from soil and groundwater sediment. / Poster session præsenteret ved International Symposium on Microbial Ecology (ISME-8), Halifax, Canada.

Ekelund, F.; Christensen, S.; Rønn, R.; Buhl, E; Jacobsen, C.S. (1997). A rapid automated method to enumerate soil protozoa using luxAB labelled soil bacteria as prey. / Poster at MAREP International Conference on Marker/Reporter Genes in Microbial Ecology, Stockholm, Sverige.

Thirup, L.; Ekelund, F.; Johnsen, K.; Jacobsen, C.S. (1997). Fluctations in bacterial, fungal and protozoan populations during decomposition of young barley roots, influenced by the

fungicide corbel. / Poster at MAREP International Conference on Marker/Reporter Genes in Microbial Ecology, Stockholm, Sverige.

Andersen, S.M.; Jørgensen, C.; Jacobsen, C.S. (1997). Phenanthrene degraders from the group of fluorescent pseudomonads isolated from the rhizosphere. / Poster at Pseudomonas '97, Madrid, Spain.

Andersen, S.M.; Hansen, M.; Jacobsen, C.S. (1997). Root colonization and detection of transposon labeled 2-dichlorophenoxyacetic acid degraders in soil by use of ordinary plate methods and microscopy with a confocal laser scanning microscope. / Poster at MAREP International Conference on Marker/Reporter Genes in Microbial Ecology, Stockholm, Sweden.

Boldt, T. S.; Jacobsen, C.S. (1997). Toxicity of the sulfonylurea herbicide metsulfuron methyl against fluorescent pseudomonads isolated from an agricultural soil. / Poster at Pseudomonas '97, Madrid, Spain.

Jacobsen, C.S.; Naesby, M. (1997). Use of short peptide nucleic acids in sequence specific purification of DNA from soil and groundwater sediment. / Poster at MAREP International Conference on Marker/Reporter Genes in Microbial Ecology, Stockholm, Sweden.

Johnsen, K.; Andersen, S.; Jacobsen, C.S. (1996). Evaluation of four methods to assess diversity among fluorescent pseudomonads. / Poster at International Symposium on Bacterial Genetics and Ecology (BAGECO 5), Nafplion, Greece.

Jacobsen, C.S.; Jørgensen, A.; Sørensen, J. 1996. Molecular analysis of all culturable fluorescent pseudomonads in selected microniches of the rhizosphere using REP-PCR. / Poster at International Symposium on Bacterial Genetics and Ecology (BAGECO 5), Nafplion, Greece.

Andersen, S.M.; Jacobsen, C.S. (1996). Use of a new media to isolate phenanthrene degraders from the fluorescent pseudo-monads group. / Poster at The 1996 International Symposium on Subsurface Microbiology (ISSM-96), Davos, Schweiz.

Andersen, S.; Johnsen, K.; Brinch, U.; Kragelund, L.; Jacobsen, C.S. (1995). Fluorescent pseudomonads in phenanthrene degradation: Use of luxAB reporter technology in soil experiments. / Poster at International in situ and on site bioremediation symposium, San Diego, USA.

Brinch, U; Karlson, U.; Jacobsen, C.S. (1995). Growth and survival of phenanthrene degrading bacteria in soil. / Poster at 7th International Symposium on Microbial Ecology, Sau Paulo, Brasilia.

Jacobsen, C.S.; Brinch, U; Jørgensen, C.; Aamand, J.; Jensen, B.1994. Growth in soil of Tn5-lux modified phenanthrene degrading Pseudomonas sp. / Poster at New Approaches in Microbial Ecology (NAME), Elsinore, Denmark.

Jacobsen, C.S. (1994). Magnetic capture hybridization - detection of DNA in small scale soil samples. / Poster at New Approaches in Microbial Ecology (NAME), Elsinore, Denmark.

Damgaard, P. H.; Jacobsen, C.S.; Sørensen, J. (1994). Molecular detection of Bacillus cereus and B. thuringiensis by a unique DNA strech. /Poster at New Approaches in Microbial Ecology (NAME), Elsinore, Denmark.

Jacobsen, C.S. (1992). Use of selective plating, immunofluorescence microscopy and DNA hybridiza¬tion to assess the fate of Alcaligenes eutrophus AEO106(pRO101) in soil during water stress. / Poster at International Symposium on Microbial Ecology, Barcelona, Spain.

# Qualification of teaching experience:

## *Pedagogical training/education*

Tune Landbrugsskole 1987. After finishing my master degree, I participated in a pedagogic training and education course lasting for 3 weeks. During this course, we were trained in pedagogic principles in relation to teaching and communication.

## *Participation in the development of teaching programmes, courses and/or seminars*

## *Post-graduate courses:*

June 2017: mBioInform PhD course: “Ampliqon sequencing”” (Organiser)

October 2016: mBioInform PhD course: “Ampliqon sequencing”” (Organiser)

February 2015: mBioInform PhD course: “Ampliqon sequencing” (Organiser)

September 2014 NENUN/mBioInform PhD course: “From Sequencing to Publishing in Microbial Genomics” (Organiser)

April 2010 PATHOS financed course: “mRNA quantification in soil and water environment”, GEUS, Copenhagen, Denmark (Organiser)

November 2004 Nordic Ph.D. course (NORFA): “Microbial Ecology and Bioremediation in cold climate”, GEUS, Copenhagen, Denmark (Organiser).

August 1994 International Ph.D. course: "New Methods in Molecular Microbial Ecology; Advanced Laboratory Course", DTU, Lyngby, Denmark.

June 1993 Nordic Ph.D. course (NORFA): "Modern Methods in Microbial Ecology", Helsinki, Finland.

## *Pre-graduate courses:*

Spring 2024, 2023, 2022 Lecturer in Arctic Microbial Ecology in Nuuk; Greenlandic Nature Institute/Aarhus University (course responsible Prof. Alexandre Anesio).

Spring 2014, 2013, 2012, 2011 Lecturer in Terrestrial Environmental Chemistry at University of Copenhagen (course responsible Prof. Hans Chr. Bruun Hansen).

Autumn 2009, 2008 and 2007 Lecturer in Environmental Soil Chemistry and Biotechnology (Course responsible Prof. Hans Chr. Bruun Hansen).

Autumn 2014, 2013, 2012, 2011, 2010, 2009, 2008, 2007 and 2006 Lecturer in Nature, Environment and Society (In Danish: Natur Miljø og samfund) (Course responsible Ass. Prof. Tove Enggrob Blom / Thomas Lundhede).

Autumn 2006 Lecturer in Soil and Enviornment C (Course responsible Prof. Hans Chr. Bruun Hansen).

Autumn 2005 Guest lecturer Soil and Environment C (12 lectures) (course responsible Prof. Hans Chr. Bruun Hansen).

Autumn 2000, 2001, 2002 and 2004 Guest lecturer at University of Copenhagen (course responsible Ass. Prof. Flemming Ekelund).

Spring 2001, 2002, 2003: Guest lecturer in Soil Microbiology (one day) (course responsible Prof. Jan Sørensen).

Spring 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2005 Guest lecturer in Terrestrial Environmental Chemistry (Between 2 and 10 lectures) (course responsible Prof. Hans Chr. Bruun Hansen).

June 1994 and 1996: Molecular Microbial Ecology (in Danish: Molekylær Mikrobiel Økologi).
3 weeks intensive course together with Ass. Prof. Ole Nybroe, KVL.

January 1993, 1994, 1995 and 1996 Bacterial Physiology and Genetics (in Danish: Bakteriernes fysiologi og genetik). 3 weeks intensive course together with Prof. Jan Sørensen and Ass. Prof. Ole Nybroe.

Autumn 1992, 1993, 1994, 1995 and 1996 General Microbiology (in Danish: Generel mikrobiologi), 100+ students introductory course together with Ass. Prof. Jens Wolstrup, Ass. Prof. Niels Jørgensen, Ass. Prof. Ole Nybroe and Prof. Jan Sørensen.

### *Development of teaching material*

Hansen, HCB; Holm, PE; Hansen, S. and Jacobsen CS 2012 Soil Pollution – Biogeochemistry and Modeling. 296 pp

Jacobsen, C.S., Nybroe, O. and Sørensen J.: Bacterial Physiology and Genetics (in Danish: Bakteriernes fysiologi og genetik) 46 pp

Molecular Microbial Ecology (in Danish: Molekylær Mikrobiel Økologi). together with Ass. prof. Ole Nybroe, KVL.

Nordic Ph.D. course (NORFA): “Microbial Ecology and Bioremediation in cold climate”, GEUS, Copenhagen, Denmark (Organiser)

Environmental Soil Chemistry and Botechnology, production of a chapter on microbial processes in relation to environmental chemistry and biotechnology.

Nature, Environment and Society (in Danish: Natur Miljø og Samfund) production of teaching material for a case teaching: “groundwater and pesticides”; supervision of several groups and hosting of journal clubs.

### *Counselling and supervision of students*

### *Ph.D. students:*

Lars Gerrie van Dijk (2023-2026). The active microbiome of glaciers cryoconite holes

Joseph Donald Martin (2019-2021) (main supervisor with TT-researcher Lea Ellergaard-Jensen) Microbiomes for biodegradation of environmental micropollutants

Muhammed Zohaib Anwar (2016-2019): Development of TotalRNA bioinformatic analysis to analyse microbial population in cryo environments

Toke Andreasen (2014-2018): Circular resource flow of wood ash to soil: Using environmental genomics to assess taxonomic and functional dynamics of soil microbiomes

Aviaja Lyberth Hauptmann (2014-2017): Microbial Biogeography of the Arctic Cryosphere

Morten Schostag Nielsen (2013-2016): Permafrost Microbiology.

Frances Gilman (2012-2016): Microbial diversity studies of permafrost soils in high arctic Greenland (With University of Montana)

Tina Bundgaard Bech (2008-2012): Bacterial Movement in soil.

Anita Forslund (2008-2012) Transport and food safety of microbial contaminants following application of manure and low quality water to agricultural soil.

Jacob Bælum (2004-2008): Pesticide degradation and functional gene expression (measured as mRNA quantification) in different soils.

Ellinor Lindberg (2004-2007): Detection and quantification of subsurface pesticide degrading microbial populations.

Line Fredslund Folker (2003-2008): Bacterial chemotaxi in contaminated soil.

Ulla Cathrine Brinch (1997-2001): Bacterial mobility in soil in relation to PAH degradation.

Søren Mørch Andersen (1997-2001): Genetics of triazine herbicide degradation.

Kaare Johnsen (1995-1999): Effects of pesticides on selected soil bacteria.

## *Master thesis:*

Mirjam Paasch (2023-2024): Microbial degradation of different carbon compounds and their impact on the microbial cryoconite community on the Greenland Ice Sheet

Rui Gustava Santini (2015-2016): Bioinformatic analysis of oildegrading microbial communities isolated from active carbon bacterial trap placed in the Bay of Disko

Ann Margeret O'Connor (2014-2015): Microbial populations dynamics of jetfuel degrading microbial consortia in oli contaminated soils from Station Nord

Nikoline Olsen (2013-2014): Crude oil biodegradation potential of Arctic indigenous sediment dwelling microorgansism, with an emphasis on phenanthrene degrader consortia

Toke Andreasen (2012-2013): Microbial activity in thawing permafrost

Mathis Hjort Hjemsø (2012-2013): Changes of bacterial diversity in pesticide impacted soil analysed using combinations of HighResolutionMeltPCR, DGGE and pyrosequencing

Morten Schostag Nielsen (2011-2012): Annual changes of microbial diversity of permafrost active layer soil from Svalbard using High Throughput Illumina sequencing.

Marlene B. Jensen (2010). Leaching of diflufenican in gravel soil

Christine Mosegaard Jensen (stud. scient 2007 - 2008): Microbial population dynamics and quantitative analysis of functional genes for TCE degradation in contaminated anaerobic aquifer sediments.

Nadia Glæsner (stud. agro 2006 - 2007): Distribution and diversity of functional genes for atrazine degradation in Danish and French soil.

Signe Knattrup (stud. scient 2005 - 2007): Use of quantitative PCR to evaluate the survival of PCE/TCE degrading *Dehallococcoides* sp. in groundwater sediment.

Tina Bundgaard Bech (stud. agro 2005 - 2006): Survival and transport of Salmonella sp. from manure through the vadose zone as measured with a multiphasic quantification approach.

Thomas Kruse (stud. scient 2003 - 2005): Arctic jetfuel degrading microbial populations in soil from Svalbard.

Thomas Haack-Sørensen (stud. scient. 2003 - 2005): Population dynamics of bacteria and protozoa in herbicide exposed subsoils.

Jacob Bælum (stud. agro 2003 - 2005): Bioavailability of phenole metabolites from MCPA.

Rikke Strange Hansen (stud. scient 2002 - 2003): Bioavailability of glyphosate in sand and gravel.

Louise Jakobsen (stud. agro 2001 - 2003): Soil DNA extraction and detection of non-culturable cells of *gfp* labelled bacteria in soil profiles.

Berit Godskesen (stud. scient 2001 - 2002): Role of ageing of triazineamine in soils in bioavailability using inoculated *Rhodococcus erythropolis* TA57.

Sarah Kelly Mortensen (stud. scient 2001- 2003): The use of frozen-stored soil samples from a sandy soil profile in herbicide degradation studies.

Elvira Vaclavik (stud. scient 2000 - 2001): Triazine degrading biofilm for drinking water purification.

Mikkel Bender (stud. scient 1999 - 2001): Measurement of bacterial activity as mRNA in contaminated soil.

Michael Palsgaard Andersen (stud. agro 1999 - 2000): Pyrene degradation by white root fungi, production of extracelluar enzymes and their influence on formation of bioavaible degradation products.

Tina Jensen (stud. polyt. 1999 - 2000): Microbial mineralization and formation of degradation products from pyrene.

Lizza Trier (stud. polyt. 1999 - 2000): Microbial mineralization and formation of degradation products from pyrene.

Line Fredslund (stud. scient 1998 - 2000): Molecular characterisation of soil protozoa using 18S rRNA sequencing.

Lene Olesen Christensen (stud. scient 1998-1999): Degradation of terbuthylazine in soil and groundwater sediment, transformation, mineralization and population dynamics of *Pseudomonas* ADP.

Helene Simoni Mortensen (stud. agro 1998-1999): Mineralisation and adsorption of sulfonyl ureaherbicides in soil as a function of pH and organic matter addition.

Mia Bracht Nielsen (stud. scient 1997-1998): Microbial degradation and adsorption of glyphosate in soil.

Jakob Ventegodt (stud. agro 1996-1998): Role of sorption of glyphosate to soil particles in bacterial breakdown. (Together with Associate professor Hans Chr. Brunn Hansen, KVL, Copenhagen).

Charlotte Rosendahl (stud. agro 1996-1997): Characterization of genes involved in degradation of carbofuran. (Together with Prof. Crawford, Idaho University).

Laila Thirup (stud. scient 1996-1998): Effects of pesticides on diversity of fluoresent pseudomonads.

Tina Schack Boldt (stud agro. 1995-1997): Diversity of sulfunylurea degrading fluoresent pseudomonads in soils.

Eliza Bergholt Buhl (stud. scient 1995-1998): Role of siderophores in survival of a *Pseudomonas fluorescens* in soils.

Kaare Johnsen (stud. scient 1995-1996): Isolation and characterization of phenanthrene degrading fluorescent pseudomonads.

Søren Andersen (stud. scient 1995-1996): Isolation and characterization of phenanthrene degrading fluorescent pseudomonads.

Ulla Brinch (stud. agro 1994-1996): Survival of a phenanthrene degrading fluorescent *Pseudomonas* in soils.

Birte Skov Larsen (stud. agro 1993-1995): Specificity of a DNA probe for detection of a penta-chlorphenol degrading *Flavobactrium* in soil.

Marian Damsgaard Thorsted (stud. agro 1993-1995): Detection of denitrifying bacteria in soil using functional DNA probes.

## *Experience with student examination and / or evaluation*

Involved in examination in Arctic Microbial Ecology at AU (at 3 occations).

Involved in examination in the following courses at KU (at 25 occasions) “Natur miljø og samfund”, “Environmental soil chemistry and biotechnology”, “Bakteriernes fysiologi og genetik”, ”Molekylær mikrobiel økologi” and ”Generel mikrobiologi”.

Involved in examination of my own master students (33 total). Involved as Censor for > 35 Danish master thesis students at the Technical University, University of Copenhagen (faculties for Pharma, Life and Nat.). Censor for 7 Danish, two Finish and two Norwegian Ph.D. students.