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## Ansættelse

**Postdoc**  
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## Publikationer

### **Co-localization of antibiotic resistance genes is widespread in the infant gut microbiome and associates with an immature gut microbial composition**

Li, Xuan Ji, Brejnrod, A., Trivedi, Urvis, Russel, J., Thorsen, J., Shah, S. A., Vestergaard, G. A., Rasmussen, Morten Arendt, Nesme, Joseph, Bisgaard, H., Stokholm, Jakob & Sørensen, Søren Johannes, 2024, I: *Microbiome*. 12, 1, 18 s., 87.

### **Horizontal transmission of a multidrug-resistant IncN plasmid isolated from urban wastewater**

Yu, Z., Wang, Q., Pinilla Redondo, Rafael, Madsen, Jonas Stenlække, Clasen, K. A. D., Ananbeh, H., Olesen, Asmus Kalckar, Gong, Zhuang, Yang, Nan, Dechesne, A., Smets, B., Nesme, Joseph & Sørensen, Søren Johannes, 2024, I: *Ecotoxicology and Environmental Safety*. 271, 12 s., 115971.

### **Insights into the circular: The cryptic plasmidome and its derived antibiotic resistome in the urban water systems**

Yu, Z., He, Wanli, Klincke, F., Madsen, Jonas Stenlække, Kot, Witold, Hansen, Lars Hestbjerg, Quintela-Baluja, M., Balboa, S., Dechesne, A., Smets, B., Nesme, Joseph & Sørensen, Søren Johannes, 2024, I: *Environment International*. 183, 12 s., 108351.

### **Interspecific interactions facilitate keystone species in a multispecies biofilm that promotes plant growth**

Yang, Nan, Røder, Henriette Lyng, Wicaksono, W. A., Wassermann, B., Russel, J., Li, Xuan Ji, Nesme, Joseph, Berg, G., Sørensen, Søren Johannes & Burmølle, Mette, 2024, I: *The ISME Journal*. 18, 1, 15 s.

### ***Hordeum vulgare* differentiates its response to beneficial bacteria**

Duan, Y., Han, M., Grimm, M., Schierstaedt, J., Imani, J., Cardinale, M., Le Jean, M., Nesme, Joseph, Sørensen, Søren Johannes & Schikora, A., 2023, I: *BMC Plant Biology*. 23, 1, 16 s., 460.

### **Draft genomes of seven isolates from Danish wastewater facilities belonging to *Pseudomonas*, *Bacillus*, *Pseudochrobactrum*, *Brevundimonas*, and *Pandoraea***

Maccario, Lorrie, Silva, A. F., Nesme, Joseph, Amador Hierro, Cristina Isabel, Sørensen, Søren Johannes, Cooper, V. S. & Røder, Henriette Lyng, 2023, I: *Microbiology resource announcements*. 12, 12, 4 s.

### **Plasmid permissiveness of wastewater microbiomes can be predicted from 16S rRNA sequences by machine learning**

Moradigaravand, D., Li, L., Dechesne, A., Nesme, Joseph, de la Cruz, R., Ahmad, H., Banzhaf, M., Sørensen, Søren Johannes, Smets, B. F. & Kreft, J. U., 2023, I: *Bioinformatics (Oxford, England)*. 39, 7, 11 s.

### **A novel and affordable bioaugmentation strategy with microbial extracts to accelerate the biodegradation of emerging contaminants in different media**

Aguilar-Romero, I., van Dillewijn, P., Nesme, Joseph, Sørensen, Søren Johannes, Nogales, R., Delgado-Moreno, L. & Romero, E., 2022, I: *Science of the Total Environment*. 834, 10 s., 155234.

**Biofilm cultivation facilitates coexistence and adaptive evolution in an industrial bacterial community**

Henriksen, N. N. S. E., Hansen, Mads Frederik, Kiesewalter, Heiko T., Russel, J., Nesme, Joseph, Foster, K. R., Svensson, B., Øregaard, G., Herschend, J. & Burmølle, Mette, 2022, I: npj Biofilms and Microbiomes. 8, 8 s., 59.

**Biosolids for safe land application: does wastewater treatment plant size matters when considering antibiotics, pollutants, microbiome, mobile genetic elements and associated resistance genes?**

Wolters, B., Hauschild, K., Blau, K., Mulder, I., Heyde, B. J., Sørensen, Søren Johannes, Siemens, J., Jechalke, S., Smalla, K. & Nesme, Joseph, 2022, I: Environmental Microbiology. 24, 3, s. 1573-1589 17 s.

**CRISPR-Cas systems are widespread accessory elements across bacterial and archaeal plasmids**

Pinilla Redondo, Rafael, Russel, J., Mayo-Muñoz, D., Shah, S. A., Garrett, Roger Antony, Nesme, Joseph, Madsen, Jonas Stenlørkke, Fineran, P. C. & Sørensen, Søren Johannes, 2022, I: Nucleic Acids Research. 50, 8, s. 4315-4328

**Deciphering bacteria associated with a pre-parasitic stage of the root-knot nematode *Meloidogyne hapla* in nemato-suppressive and nemato-conducive soils**

Topalović, O., Santos, S. S., Heuer, H., Nesme, Joseph, Kanfra, X., Hallmann, J., Sørensen, Søren Johannes & Vestergård, M., 2022, I: Applied Soil Ecology. 172, 9 s., 104344.

**Exudates from *Miscanthus x giganteus* change the response of a root-associated *Pseudomonas putida* strain towards heavy metals**

Zadel, U., Cruzeiro, C., Raj Durai, A. C., Nesme, Joseph, May, R., Balázs, H., Michalke, B., Płaza, G., Schröder, P., Schloter, M. & Radl, V., 2022, I: Environmental Pollution. 313, 13 s., 119989.

**Importance of substrate quality and clay content on microbial extracellular polymeric substances production and aggregate stability in soils**

Olagoke, F. K., Bettermann, A., Nguyen, P. T. B., Redmile-Gordon, M., Babin, D., Smalla, K., Nesme, Joseph, Sørensen, Søren Johannes, Kalbitz, K. & Vogel, C., 2022, I: Biology and Fertility of Soils. 58, 4, s. 435-457 23 s.

**IncHI1A plasmids potentially facilitate horizontal flow of antibiotic resistance genes to pathogens in microbial communities of urban residential sewage**

Olesen, Asmus Kalckar, Pinilla Redondo, Rafael, Hansen, Mads Frederik, Russel, J., Dechesne, A., Smets, B. F., Madsen, Jonas Stenlørkke, Nesme, Joseph & Sørensen, Søren Johannes, 2022, I: Molecular Ecology. 31, 5, s. 1595-1608

**Influence of sewage sludge stabilization method on microbial community and the abundance of antibiotic resistance genes**

Major, N., Jechalke, S., Nesme, Joseph, Goreta Ban, S., Černe, M., Sørensen, Søren Johannes, Ban, D., Grosch, R., Schikora, A. & Schierstaedt, J., 2022, I: Waste Management. 154, s. 126-135 10 s.

**Long-Term Fertilization Strategy Impacts *Rhizoctonia solani*-Microbe Interactions in Soil and Rhizosphere and Defense Responses in Lettuce**

Sommermann, L., Babin, D., Behr, J. H., Chowdhury, S. P., Sandmann, M., Windisch, S., Neumann, G., Nesme, Joseph, Sørensen, Søren Johannes, Schellenberg, I., Rothballer, M., Geistlinger, J., Smalla, K. & Grosch, R., 2022, I: Microorganisms. 10, 9, 27 s., 1717.

**Metagenomic evidence for co-occurrence of antibiotic, biocide and metal resistance genes in pigs**

Li, Xuan Ji, Rensing, C., Vestergaard, G., Arumugam, Mani, Nesme, Joseph, Gupta, S., Brejnrod, A. D. & Sørensen, Søren Johannes, 2022, I: Environment International. 158, 10 s., 106899.

**Quantification and fate of plasmid-specific bacteriophages in wastewater: Beyond the F-coliphages**

He, Z., Parra, B., Nesme, Joseph, Smets, B. F. & Dechesne, A., 2022, I: Water Research. 227, 8 s., 119320.

**Broad Dissemination of Plasmids across Groundwater-Fed Rapid Sand Filter Microbiomes**

Pinilla Redondo, Rafael, Olesen, Asmus Kalckar, Russel, J., de Vries, L. E., Christensen, L. D., Musovic, S., Nesme, Joseph & Sørensen, Søren Johannes, 2021, I: mBio. 12, 6, 13 s., e0306821.

**Comparative Genomics of Novel *Agrobacterium* G3 Strains Isolated From the International Space Station and Description of *Agrobacterium tomkonis* sp. nov.**

Singh, N. K., Lavire, C., Nesme, Joseph, Vial, L., Nesme, X., Mason, C. E., Lassalle, F. & Venkateswaran, K., 2021, I: *Frontiers in Microbiology*. 12, 15 s., 765943.

**Distinct rhizomicrobiota assemblages and plant performance in lettuce grown in soils with different agricultural management histories**

Babin, D., Sommermann, L., Chowdhury, S. P., Behr, J. H., Sandmann, M., Neumann, G., Nesme, Joseph, Sørensen, Søren Johannes, Schellenberg, I., Rothballer, M., Geistlinger, J., Smalla, K. & Grosch, R., 2021, I: *FEMS Microbiology Ecology*. 97, 4, 21 s., fiab027.

**EMBRACE-WATERS statement: Recommendations for reporting of studies on antimicrobial resistance in wastewater and related aquatic environments**

Hassoun-Kheir, N., Stabholz, Y., Kreft, J.-U., de la Cruz, R., Dechesne, A., Smets, B. F., Romalde, J. L., Lema, A., Balboa, S., García-Riestra, C., Torres-Sangiao, E., Neuberger, A., Graham, D., Quintela-Baluja, M., Stekel, D. J., Graham, J., Pruden, A., Nesme, J., Sørensen, S. J., Hough, R. & 1 flere, Paul, M., 2021, I: *One Health*. 13, 9 s., 100339.

**Emergent bacterial community properties induce enhanced drought tolerance in *Arabidopsis***

Yang, Nan, Nesme, Joseph, Røder, Henriette Lyng, Li, Xuan Ji, Zuo, Zhangli Thomsen, Petersen, Morten, Burmølle, Mette & Sørensen, Søren Johannes, 2021, I: *npj Biofilms and Microbiomes*. 7, 11 s., 82.

**Extended-Spectrum  $\beta$ -Lactamase and Carbapenemase Genes are Substantially and Sequentially Reduced during Conveyance and Treatment of Urban Sewage**

Li, L., Nesme, Joseph, Quintela-Baluja, M., Balboa, S., Hashsham, S., Williams, M. R., Yu, Z., Sørensen, Søren Johannes, Graham, D. W., Romalde, J. L., Dechesne, A. & Smets, B. F., 2021, I: *Environmental Science & Technology*. 55, 9, s. 5939-5949 11 s.

**Identification of Beneficial Microbial Consortia and Bioactive Compounds with Potential as Plant Biostimulants for a Sustainable Agriculture**

Tabacchioni, S., Passato, S., Ambrosino, P., Huang, L., Caldara, M., Cantale, C., Hett, J., Del Fiore, A., Fiore, A., Schlüter, A., Sczyrba, A., Maestri, E., Marmiroli, N., Neuhoff, D., Nesme, J., Sørensen, S. J., Aprea, G., Nobili, C., Presenti, O., Giovannetti, G. & 4 flere, Giovannetti, C., Pihlanto, A., Brunori, A. & Bevivino, A., 2021, I: *Microorganisms*. 9, 2, 23 s., 426.

**Impact of Long-Term Organic and Mineral Fertilization on Rhizosphere Metabolites, Root-Microbial Interactions and Plant Health of Lettuce**

Windisch, S., Sommermann, L., Babin, D., Chowdhury, S. P., Grosch, R., Moradtalab, N., Walker, F., Höglinger, B., El-Hasan, A., Armbruster, W., Nesme, Joseph, Sørensen, Søren Johannes, Schellenberg, I., Geistlinger, J., Smalla, K., Rothballer, M., Ludewig, U. & Neumann, G., 2021, I: *Frontiers in Microbiology*. 11, 26 s., 597745.

**Importance of microbial communities at the root-soil interface for extracellular polymeric substances and soil aggregation in semiarid grasslands**

Bettermann, A., Zethof, J. H. T., Babin, D., Cammeraat, E. L. H., Solé-Benet, A., Lázaro, R., Luna, L., Nesme, Joseph, Sørensen, Søren Johannes, Kalbitz, K., Smalla, K. & Vogel, C., 2021, I: *Soil Biology & Biochemistry*. 159, 14 s., 108301.

**Kin discrimination promotes horizontal gene transfer between unrelated strains in *Bacillus subtilis***

Stefanic, P., Belcijan, K., Kraigher, B., Kostanjšek, R., Nesme, Joseph, Madsen, Jonas Stenlække, Kovac, J., Sørensen, Søren Johannes, Vos, M. & Mandic-Mulec, I., 2021, I: *Nature Communications*. 12, 11 s., 3457.

**Metagenomic analysis of a keratin-degrading bacterial consortium provides insight into the keratinolytic mechanisms**

Kang, D., Huang, Y., Nesme, Joseph, Herschend, J., Jacquiod, S., Kot, Witold, Hansen, Lars Hestbjerg, Lange, L. & Sørensen, Søren Johannes, 2021, I: *Science of the Total Environment*. 761, 9 s., 143281.

**Reduced tillage, cover crops and organic amendments affect soil microbiota and improve soil health in Uruguayan vegetable farming systems**

Cerrecetto, V., Smalla, K., Nesme, Joseph, Garaycochea, S., Fresia, P., Sørensen, Søren Johannes, Babin, D. & Leoni, C., 2021, I: FEMS Microbiology Ecology. 97, 3, 14 s., fiab023.

**Root exposure to apple replant disease soil triggers local defense response and rhizoplane microbiome dysbiosis**

Balbín-Suárez, A., Jacquioid, S., Rohr, A. D., Liu, B., Flachowsky, H., Winkelmann, T., Beerhues, L., Nesme, Joseph, Sørensen, Søren Johannes, Vetterlein, D. & Smalla, K., 2021, I: FEMS Microbiology Ecology. 97, 4, 14 s., fiab031.

**Soil microbial legacies differ following drying-rewetting and freezing-thawing cycles**

Meisner, A., Snoek, B. L., Nesme, Joseph, Dent, E., Jacquioid, S., Classen, A. T. & Priemé, Anders, 2021, I: The ISME Journal. 15, 4, s. 1207-1221 15 s.

**Salmonella persistence in soil depends on reciprocal interactions with indigenous microorganisms**

Schierstaedt, J., Jechalke, S., Nesme, Joseph, Neuhaus, K., Sørensen, Søren Johannes, Grosch, R., Smalla, K. & Schikora, A., 2020, I: Environmental Microbiology. 22, 7, s. 2639-2652 14 s.

**Changes induced by heavy metals in the plant-associated microbiome of *Miscanthus x giganteus***

Zadel, U., Nesme, Joseph, Michalke, B., Vestergaard, G., Plaza, G. A., Schröder, P., Radl, V. & Schloter, M., 2020, I: Science of the Total Environment. 711, 10 s., 134433.

**Comparison of antibiotic-resistant bacteria and antibiotic resistance genes abundance in hospital and community wastewater: A systematic review**

Hassoun-Kheir, N., Stabholz, Y., Kreft, J., de la Cruz, R., Romalde, J. L., Nesme, Joseph, Sørensen, Søren Johannes, Smets, B. F., Graham, D. & Paul, M., 2020, I: Science of the Total Environment. 743, 11 s., 140804.

**Composted sewage sludge influences the microbiome and persistence of human pathogens in soil**

Major, N., Schierstaedt, J., Jechalke, S., Nesme, Joseph, Ban, S. G., Černe, M., Sørensen, Søren Johannes, Ban, D. & Schikora, A., 2020, I: Microorganisms. 8, 7, 14 s., 1020.

**Construction of Simplified Microbial Consortia to Degrade Recalcitrant Materials Based on Enrichment and Dilution-to-Extinction Cultures**

Kang, D., Jacquioid, S., Herschend, J., Wei, S., Nesme, Joseph & Sørensen, Søren Johannes, 2020, I: Frontiers in Microbiology. 10, 10 s., 3010.

**Metal-induced bacterial interactions promote diversity in river-sediment microbiomes**

Cyriaque, V., Géron, A., Billon, G., Nesme, Joseph, Werner, J., Gillan, D. C., Sørensen, Søren Johannes & Wattiez, R., 2020, I: F E M S Microbiology Ecology. 96, 6, 12 s., fiaa076.

**Plasmids persist in a microbial community by providing fitness benefit to multiple phylotypes**

Li, L., Dechesne, A., Madsen, Jonas Stenlække, Nesme, Joseph, Sørensen, Søren Johannes & Smets, B. F., 2020, I: I S M E Journal. 14, 5, s. 1170-1181 12 s.

**Prokaryotic Community Composition and Extracellular Polymeric Substances Affect Soil Microaggregation in Carbonate Containing Semiarid Grasslands**

Zethof, J. H. T., Bettermann, A., Vogel, C., Babin, D., Cammeraat, E. L. H., Solé-Benet, A., Lázaro, R., Luna, L., Nesme, Joseph, Woche, S. K., Sørensen, Søren Johannes, Smalla, K. & Kalbitz, K., 2020, I: Frontiers in Environmental Science. 8, 19 s., 51.

**Rhizosphere microbial communities associated to rose replant disease: links to plant growth and root metabolites**

Yim, B., Baumann, A., Grunewaldt-Stöcker, G., Liu, B., Beerhues, L., Zühlke, S., Sapp, M., Nesme, Joseph, Sørensen, Søren Johannes, Smalla, K. & Winkelmann, T., 2020, I: Horticulture Research. 7, 16 s., 144.

**Rose replant disease: detailed analyses of plant reactions, root endophytes and rhizosphere microbial communities**

Baumann, A., Yim, B., Grunewaldt-Stöcker, G., Liu, B., Beerhues, L., Sapp, M., Nesme, Joseph, Sørensen, Søren Johannes, Smalla, K. & Winkelmann, T., 2020, I: Acta Horticulturae. 1283, s. 97-104 8 s.

**Characterization of Extracellular Biosurfactants Expressed by a *Pseudomonas putida* Strain Isolated from the Interior of Healthy Roots from *Sida hermaphrodita* Grown in a Heavy Metal Contaminated Soil**

Bernat, P., Nesme, Joseph, Paraszkievicz, K., Schloter, M. & Płaza, G., 2019, I: Current Microbiology. 76, 11, s. 1320-1329 10 s.

**Fate of CMY-2-Encoding Plasmids Introduced into the Human Fecal Microbiota by Exogenous *Escherichia coli***

Anjum, M., Madsen, Jonas Stenlørkke, Nesme, Joseph, Jana, B., Wiese, M., Jasinskyte, D., Nielsen, Dennis Sandris, Sørensen, Søren Johannes, Dalsgaard, Anders, Moodley, Arshnee, Bortolaia, V. & Guardabassi, Luca, 2019, I: Antimicrobial Agents and Chemotherapy. 63, 5, 13 s., e02528-18.

**Improvement of pesticide removal in contaminated media using aqueous extracts from contaminated biopurification systems**

Romero, I. A., van Dillewijn, P., Nesme, Joseph, Sørensen, Søren Johannes & Romero, E., 2019, I: Science of the Total Environment. 691, s. 749-759 11 s.

**Oral administration of antibiotics increased the potential mobility of bacterial resistance genes in the gut of the fish *Piaractus mesopotamicus***

Sáenz, J. S., Marques, T. V., Barone, R. S. C., Cyrino, J. E. P., Kublik, S., Nesme, Joseph, Schloter, M., Rath, S. & Vestergaard, G., 2019, I: Microbiome. 7, s. 1-14 24.

**Estimating the Transfer Range of Plasmids Encoding Antimicrobial Resistance in a Wastewater Treatment Plant Microbial Community**

Li, L., Dechesne, A., He, Z., Madsen, Jonas Stenlørkke, Nesme, Joseph, Sørensen, Søren Johannes & Smets, B. F., 8 maj 2018, I: Environmental Science & Technology Letters. 5, 5, s. 260-265 6 s.