

### **Publications, last 5 years:**

- Wolde-meskel, E., Berg, T., Peters, N. K. and **Frostegård, Å.** 2004. Nodulation status of *Acacia spp* and other native woody legumes, and phenotypic characteristics of associated rhizobia in soils of southern Ethiopia. *Biol. Fert. Soils*.40: 55-66.
- Wolde-meskel, E., Terefework, Z., Lindström, K. and **Frostegård, Å.** 2004. Rhizobia nodulating African *Acacia spp* and *Sesbania sesban* trees in southern Ethiopian soils are metabolically and genomically diverse. *Soil Biol. Biochem.* **36**: 2013-2025.
- Bomo, A.-M., Ekeberg, D., Stevik, T.-K., Hanssen, J.-F. and **Frostegård, Å.** 2004. Retention and removal of the fish pathogenic bacterium *Yersinia ruckeri* in biological sand filters. *J. Appl. Microbiol.* **97**: 598-608.
- Wolde-meskel, E., Terefework, Z., Lindström, K. and **Frostegård, Å.** 2004. Metabolic and genomic diversity of rhizobia from field standing native and exotic woody legumes in southern Ethiopia. *Syst. Appl. Microbiol* **27**: 603-611.
- Joner, E.J., Eldhuset, T.D., Lange, H. and **Frostegård, Å.** 2005. Changes in the microbial community in a forest soil amended with aluminium *in situ*. *Plant and Soil* **275**:295-304 .
- Wolde-meskel, E., Terefework, Z., **Frostegård, Å** and Lindström, K. 2005. Genetic diversity and phylogeny of rhizobia isolated from woody legumes in southern Ethiopia. *International Journal of Systematic and Evolutionary Microbiol.* **55**:1439-1452.
- Grønli, K., **Frostegård, Å.**, Bakken L. and Ohlson, M. 2005. The effect of fertilisation and glucose amendment on the interactions between microbial soil organisms and young tree seedlings. *Plant and Soil.* **278**: 275-291.
- Jia, Y., Bakken, L.R., Breedveld G.D., Aagaard, P. and **Frostegård Å.** 2006. Organic compounds that reach subsoil may threaten groundwater quality; effect of Benzotriazole on degradation kinetics and microbial community composition. *Soil Biol. Biochem.* **38**:2543-2556.
- Sverdrup L. E., Linjordet R., Strømman, G., Hagen S. B., van Geste C.A.M., **Frostegård Å.** and Sørheim R. 2006. Functional and community-level soil microbial responses to zinc addition may depend on test system biocomplexity. *Chemosphere.* **65**:1747-1754.
- Jia, Y., Molstad, L., **Frostegård Å.**, Aagaard, P., Breedveld G.D and Bakken, L.R. 2007. Kinetics of microbial growth and degradation of organic substrates in subsoil as affected by an inhibitor, benzotriazole: Model based analyses of experimental results. *Soil Biol. Biochem* **39**:1597-1608.
- Pontiroli, A., Monier, JM, **Frostegård, Å.**, Simonet, P. and Vogel T. 2007. Ecology of transgenic DNA in the environment. *Environmental Biosafety Research.* *Environmental Biosafety Research* **6**:15-37.
- Bergau, L., Shapleigh, JP, **Frostegård, Å.** and Bakken, L. 2007. Transcription and activities of  $\text{No}_x$  reductases in *Agrobacterium tumefaciens*: the influence of nitrate, nitrite and oxygen availability. *Environmental Microbiology.* doi:10.1111/j.1462-2920.2007.01557.x.
- Bach, L., **Frostegård, Å.** and Ohlson, M. 2007. Variation in soil microbial communities across a boreal spruce forest landscape. *Can J For Res.* In Press.
- Ehlers, K., Bünemann, E., Oberson, A., Frossard, E., **Frostegård, Å.**, Mao, Y. and Bakken, L. 2008. Extraction of soil bacteria from a Ferralsol. *Soil Biol. Biochem.* In Press.
- Mao, Y., Bakken, L.R., Zhao, L. and **Frostegård, Å.** 2008. Functional robustness and gene pools of a wastewater nitrification reactor, comparison of dispersed and intact biofilms when stressed by low oxygen and low pH. *FEMS Microbiology Ecology.* In press. DOI:10.1111/j.1574-6941.2008.00532.x

## Book chapters

Bakken, L. and **Frostegård, Å.** 2006. Nucleic acid extraction from soil, pp 49-73. Book chapter in Series on Soil Biology Volume 8 (350 p), "Nucleic Acids and Proteins in Soil". Eds. K. Smalla and P. Nannipieri. Springer-Verlag, Berlin.

## Patents

Ball, M., Cappellano, C., Courtois, S., Francou, F., **Frostegård, Å.**, Guerineau, M., Jeannin, P., Pernodet, J.-L., Raynal, A., Sezonov, G., Simonet, P., and Tuphile, K. 2002. Patent no FR99/15032. "Procedure to obtain nucleic acids from environmental samples". Method suitable for extracting large fragments of nucleic acids from the soil metagenome, when searching for unknown gene sequences coding for unknown metabolites. Collaboration with Aventis Pharma S.A. (France) and Centre National de la Recherche Scientifique (France).

## Abstracts (last 3 years)

Mørkved, PT, Bergaust, L, Dörsch, P, **Frostegård, Å** and Bakken, L. Phenotypic characterization of denitrifying communities and isolated bacteria, low temperature and low pH. Oral presentation at COST Action 856, meeting in Padova, Italy, April 2005.

**Frostegård, Å.** Keynote lecture "Microbial community responses to environmental impact – do numbers matter?" at 8<sup>th</sup> Symposium on Bacterial Genetics and Ecology BAGECO-8, Lyon, France, June 2005.

Bergaust, L., Bakken, L. and **Frostegård, Å.** Expression of reductases in denitrifying bacteria, a matter of importance for survival and global change. Poster presented at 8<sup>th</sup> Symposium on Bacterial Genetics and Ecology BAGECO-8, Lyon, France, June 2005.

Wolde-meskel, E., Terefework, Z., **Frostegård, Å** and Lindström, K. Rhizobia indigenous to Ethiopian soils are phylogenetically diverse and comprise several unrecognized species. Poster presented at 8<sup>th</sup> Symposium on Bacterial Genetics and Ecology BAGECO-8, Lyon, France, June 2005.

**Frostegård, Å.** Invited talk "Functionality and resilience of soil microbial communities – the importance of population sizes" at International High-Level Forum on Bioeconomy, Session Environmental Biotechnology. Beijing, China, 14-16 Sept 2005.

Bach, L. H., **Frostegård, Å.** and Mikael Ohlson, M. Spatial variation of soil microbial communities studied by PLFA-analysis: causal factors at landscape scale. Poster at Focus on Soils Symposium, September 14 - 16, 2005, Uppsala, Sweden.

Bergaust L. L., Dörsch P., Shapleigh J., **Frostegård Å.**, Bakken L. R. Influence of nitrate, nitrite and oxygen availability on electron flow and induction of denitrification in pure culture of *Agrobacterium tumefaciens*. Oral presentation at COST Action 856, meeting in Nijmegen, the Netherlands, March 2006.

Bergaust, L, Dörsch, P., Shapleigh, J., Frostegård, Å., Bakken L.R. Kinetics of denitrification and gene expression in *Agrobacterium tumefaciens* as controlled by O<sub>2</sub>, NO<sub>3</sub><sup>-</sup>, NO<sub>2</sub><sup>-</sup> and NO. Oral presentation at COST Action 856, Denitrification-systems biology approaches, Ås, Norway, October 2006.

Bergaust, L., Yuejian, M., Bakken, L. and **Frostegård, Å.** Expression and dynamics of denitrification as influenced by pH, oxygen availability and NO<sub>x</sub> concentration. Poster at 9<sup>th</sup> Symposium on Bacterial Genetics and Ecology BAGECO-9, Wernigerode, Germany, 23-27 June 2007.

**Frostegård, Å.**, Yuejian, M. and Bakken, L. Gene pools and nitrogen red/ox kinetics in biofilms of a wastewater nitrification reactor - effects of perturbation by altered pH, oxygen concentration and dispersion. Oral presentation at 9<sup>th</sup> Symposium on Bacterial Genetics and Ecology BAGECO-9, Wernigerode, Germany, 23-27 June 2007.

Liu, B., Batioglu, M., Bakken, L. and **Frostegård, Å.** Composition and expression of denitrification genes in soils of different pH. Poster at Meeting of COST Action 856 "Denitrification and related aspects", 5-8 Dec 2007, Uppsala, Sweden.

Bergaust, L., Mao, Y., Bakken, L. and **Frostegård, Å.** Dynamics of denitrification as influenced by oxygen availability and NO<sub>x</sub> concentration in two contrasting denitrifiers. Poster at Meeting of COST Action 856 "Denitrification and related aspects", 5-8 Dec 2007, Uppsala, Sweden.

Mao, Y., **Frostegård, Å.** and Bakken. L. Challenging biofilms from wastewater nitrification material with different levels of oxygen, pH and organic pollutants – effects on nitrification, NO and N<sub>2</sub>O production. Poster at Meeting of COST Action 856 “Denitrification and related aspects”, 5-8 Dec 2007, Uppsala, Sweden.