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Education and Career

Nils-Kåre Birkeland obtained M.Phil. in microbiology from University of Bergen and PhD (Dr. philos) in molecular biology from University of Oslo. He has been researcher at four universities in Norway; the Norwegian Institute of Technology (now NTNU) in Trondheim, University of Oslo and The Norwegian Agricultural University (now UMB). Since 1996 he has been professor in microbiology at the Department of Microbiology (later Department of Biology), University of Bergen. From 2007 he has also been affiliated with the Geobiology Centre of Excellence at the University of Bergen. Since 1998 his main area has been extremophiles, including hyperthermophiles and Archaea. He has been a postdoc at Virginia Commonwealth University, Richmond, Virginia and visiting professor at the Center of Marine Biotechnology, University of Maryland Biotechnology Institute, Baltimore, Maryland, USA. He has coordinated a number of international networks and projects including a Nordic network on thermophiles, an INTAS network on biological metal reduction with Russian scientists and a NUFU programme on environmental microbiology in Bangladesh. He hosted the 9th International Thermophiles Conference in 2007 in Bergen.

Research interests

Through his career Dr. Birkeland has been working within a range of microorganisms and microbial aspects, including gene regulation, phage, anaerobic microbiology, biotechnology, petroleum-related microbiology, enteric pathogens and thermostable protein biochemistry. Current activities include industrial biotechnology of thermostable transferase enzymes, methane oxidation in extreme environments, deep-sea geo-microbiology and a programme on extreme microbiology with Eurasian countries.

Some key papers

Islam T, Jensen S, Reigstad LJ, Larsen Ø, **Birkeland N-K** (2008): Methane oxidation at 55°C and pH 2 by a thermoacidophilic bacterium belonging to the *Verrucomicrobia* phylum. Proc Acad Sci USA, January 8, vol. 105:300-400.

Dahle H, Garshol F, Madsen M, **Birkeland NK** (2008): Microbial community structure analysis of produced water from a high-temperature North-Sea oil-field. Antonie van Leeuwenhoek **93**: 37-49.

Haugland GT, Sakakibara N, Pey AL, Rollor CR, **Birkeland NK**, Kelman Z (2008): *Thermoplasma acidophilum* Cdc6 protein stimulates MCM helicase activity by regulating its ATPase activity. Nucleic Acids Res 36: 5602-5609.

Jensen S, Neufeld JD, **Birkeland NK**, Hovland M, Murrell JC (2008): Insight into the microbial community structure of a Norwegian deep-water coral reef environment. Deep-Sea Research I. 55: 1554–1563.

Perevalova AA, Kolganova TV, **Birkeland NK**, Schleper C, Bonch-Osmolovskaya EA, Lebedinsky AV (2008): Distribution of Crenarchaeota representatives in terrestrial hot springs of Russia and Iceland. Appl Env Microbiol 74: 7620-7628.

O-Thong S, Prasertsan P, **Birkeland NK** (2009): Evaluation of methods for preparing hydrogen-producing seed inocula under thermophilic condition by process performance and microbial community analysis. Bioresource Technology, 100:909-918.

Knævelsrud I, Moen MV, Grøsvik K, Haugland GT, **Birkeland NK**, Klungland A, Leiros I, Bjelland S (2010): The Hyperthermophilic Euryarchaeon *Archaeoglobus fulgidus* Repairs Uracil by Single-Nucleotide Replacement. J. Bacteriol. 192: 5755-5766.

Erikstad HA, Jensen S, Keen TJ, **Birkeland NK** (2012): Differential expression of particulate methane monooxygenase genes in the verrucomicrobial methanotroph 'Methylacidiphilum kamchatkense' Kam1. Extremophiles, 16: 405-409 .

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