

Inge Waller Nilsen

Position: Senior advisor EU, Faculty of Health Sciences, University of Tromsø
 Email: inge.w.nilsen@uit.no
 Phone: +47 412 19 983

DEGREES

1975 – 1979 BSc, Biology and Chemistry, University of Tromsø
 1980 – 1983 MSc, Cell biology and Biochemistry, University of Tromsø

ACADEMIC EMPLOYMENTS

2015 – present	University of Tromsø	Senior advisor EU
2014	MAIN Biotechnology AS	CEO
2014	Northern Research Institute, NORUT	Senior researcher
2013 – 2014	University of Tromsø, Norstuct	Scientific advisor
1996 – 2014	Nofima AS	
2011 – 2014	Marine Biotechnology	Research director
1996 – 2011	Fish health and Marine biotechnology	Researcher/ Senior researcher
1989 – 1995	University of Tromsø	
1991 – 1995	Biotechnology department	Amanuensis / 1. amanuensis
1989 – 1991	Biotechnology department	Fellow
1988 – 1989	Regional hospital of Tromsø, Medical genetics	Engineer 1
1984 – 1987	University of Tromsø, Biochemical department	Fellow

APPOINTEMENTS

- Member of the Arena Biotech North steering committee (2013)
- Member of the organizing committee, BIOPROSP conferences (2006 - 2011)
- Elected member of the board, Fiskeriforskning / Nofima (2003 - 2008)
- Leader of the organizing committee, Norwegian Biochemical Society winter meeting (2005)
- Member of the scientific advisory group, Functional Genomics FUGE-N (2008-2011)
- Member of the board, Institute of Medical Biology, UiT (1991 -1993)
- Leader of the committee, Civil engineering education, UiT (1993)
- Leader of the committee, Civil engineering education, UiT (1991 - 1992)

RECENT ACADEMIC COLLABORATIONS

- Department of Ecology and Evolutionary Biology, Toronto (Canada)
- Enzymology and drug discovery group, Uppsala Universitet (Sweden)
- Marine Resources Research Group, Polytechnic Institute of Leiria (Portugal)
- Bioengineering research group, Instituto Superior Técnico, Lisboa (Portugal)
- Laboratory of food microbiology, Catholic University of Leuven (Belgium)

REFEREE ASSIGNMENTS

- Review Editor | *Frontiers in Marine Biotechnology* journal.
- Referee: *Cellular and Molecular Life Sciences, Biochemica & Biophysica Acta, Journal of Molecular Biology, Journal of Bacteriology, Comparative Biochemistry and Physiology, Fish and shellfish immunology, Molecular Biology Reports, Marine Drugs.*

PhD SUPERVISIONS

- Salomé Magalhães (2015) *Strategies to improve DNA vaccines resistance to nucleases*, Instituto Superior Técnico (Lisboa) / Nofima.
- Tony Christopeit (2014) *Protein Interaction Studies with Low Molecular Weight Ligands - Applications for Drug Discovery, Basic Research and Diagnostic Tool Design*, Uppsala Universitet / Nofima.
- Peter Kyomuhendo (2009) *Salmon goose-type lysozyme: gene, enzyme kinetics, thermodynamics and structure*, UiT – Norges arktiske universitet/ Nofima.

PATENTS

- Nilsen IW., Øverbø K. and Lanes O. (2007) Shrimp alkaline phosphatase. European Patent EP1326890 (and equivalents)
- Nilsen IW., Sandsdalen E. and Stenberg E. (2003) A method of removing nucleic acid contamination in amplification reactions. US patent 6,541,204 (and equivalents)
- Myrnes B., Nilsen IW., Øverbø K. and Sandsdalen E. (2000) Chlamysin B antibacterial protein, a protein gene for and an expression system for same. U. S. Serial No. 09/349,884

SCIENTIFIC PUBLICATIONS**Peer review journals**

- Seppola M., Bakkemo KR., Mikkelsen H., Myrnes B., Helland R., Irwin DM. and **Nilsen IW.** (2016) Multiple specialised goose-type lysozymes potentially compensate for an exceptional lack of chicken-type lysozymes in Atlantic cod. *Sci Rep* 6:28318, DOI: 10.1038/srep28318.
- Seppola M., Mikkelsen H., Johansen A., Steiro K., Myrnes B. and **Nilsen IW.** (2015) Ultrapure LPS induces inflammatory and antibacterial responses attenuated *in vitro* by exogenous sera in Atlantic cod and Atlantic salmon. *Fish & Shellfish Immunol* 44:66-78.
- Christopeit T., Øverbø K., Danielson H. and **Nilsen IW.** (2013) Efficient Screening of Marine Extracts for Protease Inhibitors by Combining FRET Based Activity Assays and Surface Plasmon Resonance Spectroscopy Based Binding Assays. *Marine Drugs* 11:4279-4293.
- Myrnes B., Seppola M., Johansen A., Øverbø K., Callewaert L., Vanderkelen L., Michiels C. and **Nilsen IW.** (2013) Enzyme characterisation and gene expression profiling of Atlantic salmon chicken- and goose-type lysozymes. *Dev Comp Immunol* 40:11–19.
- Vanderkelen L., Van Herreweghe JM., Vanoirbeek KGA., Baggerman G., Myrnes B., Declerck PJ., **Nilsen IW.**, Michiels CW. and Callewaert L. (2011) Identification of a bacterial inhibitor against g-type lysozyme. *Cell Mol Life Sci* 68:1053–1064.
- Kyomuhendo P., Myrnes B., Brandsdal B-O., Smalås A. **Nilsen IW.** and Helland R. (2010) Thermodynamics and structure of a salmon cold-active goose-type lysozyme. *Comp Biochem Physiol Part B* 156: 254-263.
- **Nilsen IW.**, Øverbø K., Havdalen LJ., Elde, M., Gjellesvik DR. and Lanes O. (2010) The Enzyme and the cDNA Sequence of a Thermolabile and Double-Strand Specific DNase from Northern Shrimps (*Pandalus borealis*). *PLoS ONE* 5 (4): e10295. doi:10.1371/journal.pone.0010295
- Kyomuhendo P., **Nilsen IW.**, Brandsdal BO. and Smalås AO. (2008) Structural evidence for lack of inhibition of fish goose-type lysozymes by a bacterial inhibitor of lysozyme. *J Mol Model* 14:777-788.
- Kyomuhendo P., Myrnes B. and **Nilsen IW.** (2007) A cold-active salmon goose-type lysozyme with high heat tolerance. *Cell Mol Life Sci* 64:2841-2847.
- Myrnes B. and **Nilsen IW.** (2007) Glutathione S-transferase from the Icelandic scallop (*Chlamys isalindica*): Isolation and partial characterization. *Comp Biochem Physiol Part C* 144: 403-407.
- **Nilsen IW.**, Myrnes B., Edvardsen R. and Chourrot D. (2003) Urochordates carry multiple genes for goose-type lysozyme and no genes for chicken- or invertebrate-type lysozymes. *Cell Mol Life Sci* 60: 2210-2218.
- Olsen Ø., **Nilsen IW.**, Sletten K. and Myrnes B. (2003) Multiple invertebrate lysozymes in blue mussel (*Mytilus edulis*). *Comp Biochem Physiol Part B* 136: 107-115.

- **Nilsen IW.** and Myrnes B. (2001) The gene of chlamysin, a marine invertebrate-type lysozyme, is organized similar to vertebrate but different from invertebrate chicken-type lysozyme genes. *Gene* 269:27-32.
- **Nilsen IW.**, Øverbø K. and Olsen RL. (2001) Thermolabile alkaline phosphatase from Northern shrimp (*Pandalus borealis*): Protein and cDNA sequence analyses. *Comp Biochem Physiol Part B* 129:853-861.
- **Nilsen IW.**, Øverbø K., Sandsdalen E., Sandaker E., Sletten K. and Myrnes B. (1999) Protein purification and gene isolation of chlamysin, a cold-active lysozyme-like enzyme with antibacterial activity. *FEBS Letters* 464:153-158.
- **Nilsen IW.**, Bakke I., Vader A., Olsvik Ø. and El-Gewely MR. (1996) Isolation of *cmr*, a novel *Escherichia coli* chloramphenicol resistance gene encoding a putative efflux pump. *J Bacteriol* 178: 3188-3193.
- Storbakk N., Fenton C., Riise HM., **Nilsen IW.** and El-Gewely MR. (1996) *In vivo* interaction between mutated tryptophan repressors of *Escherichia coli*. *J Mol Biol*, 256: 889-896.
- Grafström R., Dypbukt J., Sundqvist K., Atzori L., **Nilsen IW.**, Curren R. and Harris C. (1994) Pathobiological effects of acetaldehyde in cultured human epithelial cells and fibroblasts. *Carcinogenesis* 15: 985-990.
- Loennechen T., **Nilsen IW.**, Moens U., Andersen A. and Aarbakke J. (1992) Is there an association between an increase in c-myc RNA steady state levels and c-myc methylation in HL-60 cells treated with 3-deaza-(±)-aristeromycin, an indirect inhibitor of methylation. *Biochem Pharmacol* 44:1283-1289.
- Nordvåg BY., **Nilsen IW.**, Huseby G. and El-Gewely MR. (1991) Isolation and reconstruction of a gene from a human cDNA library by PCR. *Meth Mol Cell Biol* 2:161-168.
- Loennechen T., **Nilsen IW.**, Prytz PS. And Aarbakke J. (1990) The effect of 3-deazaadenosine and 3-deaza-(±)-aristeromycin on c-myc methylation in HL-60 cells. *Eur J Pharmacol* 183(5):1704-1705.

Scientific books

- Nordvåg BY., Riise HM., Huseby G., **Nilsen IW.** and El-Gewely MR. (1995) Direct use of blood in PCR, in *Methods in Neuroscience*, Academic Press, Volume 26, pp. 15-25.
- **Nilsen IW.**, Myrnes B., Haugli F. and Krokan H. (1986) Repair of 3-methyladenine, but lack of repair of O⁶-methylguanine residues in DNA of the alkylation resistant slime mould *Physarum polycephalum*, in Myrnes and Krokan (eds.) *Repair of DNA lesions introduced by N-nitroso compounds*, Norwegian University Press, pp. 219-229.
- Myrnes B., **Nilsen IW.**, Haugen Aa. And Krokan H. (1986) Molecular properties of O⁶-methylguanine-DNA methyltransferase in human cell, in Myrnes and Krokan (eds.) *Repair of DNA lesions introduced by N-nitroso compounds*, Norwegian University Press, pp. 112-134.
- Krokan H., Haugen Aa., Giercksky KE., **Nilsen IW.**, Yoakum GH., Harris C. and Myrnes B. (1986) O⁶-methylguanine-DNA methyltransferase activity in human tissues and the possible suppressive effect of some activated ras-oncogenes in cultured cells, in Myrnes and Krokan (eds.) *Repair of DNA lesions introduced by N-nitroso compounds*, Norwegian University Press, pp. 199-209.

MEDIA COMMUNICATIONS

- Interviews and chronicles in local, regional and national newspapers and radio stations
- *Bioteknologiskolen*, an educational video collection, *Bioteknologinemda* (2008)
- Main event on NRK TV popular science program *Schrödingers Katt* (2007)