

## CURRICULUM VITAE AND PUBLICATION LIST FOR NIELS O. G. JØRGENSEN



**Name:** Niels Ole Gerslev Jørgensen

**Professional Address:** Department of Plant and Environmental Sciences, University of Copenhagen, Thorvaldsensvej 40, DK-1871 Frederiksberg C, Denmark, Tel: +45-35322625, e-mail: nogj@plen.ku.dk

**Degrees:** MSc at Aarhus University 1978; PhD at Aarhus University 1982

**Academic Appointments:** Junior Research Fellowship 1978-1981; Senior Research Fellowship 1981-1985 Assistant Professor, Aarhus University 1981; Associate Professor, Royal Veterinary & Agricultural University (now Copenhagen University) 1985;

### Research areas

My research focuses on aquatic, microbial ecology, including both natural environments and aquaculture systems. In specific projects, the following activities are studied:

- Biology of off-flavour producing bacteria and their off-taste production in aquacultures and water reservoirs, including production and degradation of geosmin and MIB.
- Microbial production and degradation of toxins and other organic compounds in aquatic ecosystems.
- Microbiology in ships' ballast water with focus on effects of treatment technologies on growth and activity of microorganisms
- Utilization and production of organic nitrogen (amino acid isomers, proteins and bacterial cell wall components) by natural populations of microorganisms.

### Major recent research project funding

DANIDA (Danish 3<sup>rd</sup> World Aid) 2012, Bangladesh aquaculture project; The Danish Council for Strategic Research 2012 (Denmark-Brazil collaboration), funding for networking; Innovation Fund Denmark 2014 (Denmark-São Paulo Food Programme), multidisciplinary aquaculture research; DANIDA 2014, Aquaculture and green growth development project. EU aquaculture project RAS-ORGMAT 2016 (Danish-Norwegian-Portuguese collaboration). SEQ Water, Brisbane, Australia, 2017 (drinking water microbiology).

In these projects, I have been the responsible principal investigator (PI) or vice PI, and have been responsible for administrating budgets and economy, planning of research activities, reporting, publishing and teaching of MSc and PhD students.

### International collaboration

Recent and ongoing research collaboration with: Department of Geophysics, Stanford University, California (microbial ecology); Griffith University, Queensland, Australia (drinking water microbiology); United States Department of Agriculture (aquaculture microbiology); Patuakhali Science and Technology University, Bangladesh (aquaculture microbiology); Aquaculture Centre of São Paulo State University (CAUNESP), São Paulo Fisheries Institute (IPESCA), São Paulo Fisheries Institute (IPESCA). SINTEF Fisheries and Aquaculture, Norway.

### Teaching competences and supervision

Responsible for the *General Microbiology* course (130 students) and *Natural Chemistry and Microbiology* (75 students) and co-responsible for the MSc course *Applied Microbiology* (32 students). Presently supervisor for four PhD students (Denmark, Bangladesh and São Paulo), two MSc students and one BSc student.

### Articles in peer-reviewed journals: Recent articles (2012 - 2017)

- Nicolaisen, M. H., Worm, J., Jørgensen, N. O. G., Nybroe, O. (2012). Proteinase production in *Pseudomonas fluorescens* ON2 is affected by carbon sources and allows surface-attached but not planktonic cells to utilize protein for growth in lake water. *FEMS Microbial Ecology*, 80: 168-178
- Lylloff, J, Mogensen, M.H., Burford, M, Schlüter, L, Jørgensen, N.O.G. (2012) Application of quantitative PCR for detection of geosmin- and MIB-producing streptomycetes in water reservoirs of southeast Queensland, Australia. *J Water Supply AQUA*, 61, 272-282.

- Jørgensen, N.O.G., Klausen C. (2013). Effects of traditional rainbow trout (*Oncorhynchus mykiss*) breeding on dissolved organic nitrogen pools and microbial activity in the water. *Aquacult. Res.*, 44:125-139.
- Herrmann, S, Jessing, KK, Jørgensen, NOG, Cedergreen, N, Kandeler, E, Strobel, BW (2013) Distribution and ecological impact of artemisinin derived from *Artemisia annua* L. in an agricultural ecosystem. *Soil Biol Biochem*, 57: 164-172.
- Marcussen, H., Alam, Md., Rahman, Md. M., Ali, Md. L, Mahmud, S., Jørgensen, N.O.G. (2014). Species-specific content of As, Pb, and other elements in pangas (*Pangasianodon hypophthalmus*) and tilapia (*Oreochromis niloticus*) from aquaculture ponds in southern Bangladesh. *Aquacult* 426:85-87
- Petersen, M.A., Alam, Md., Rahman, Md. M., Ali, Md. L, Mahmud, S., Schlüter, L., Jørgensen, N.O.G. (2014). Geosmin off-flavour in pond-raised fish in southern Bangladesh and occurrence of potential off-flavour producing organisms. *Aquacult Environ Interact* 5:107-116
- Shelford, E.J., Jørgensen, N.O.G., Rasmussen, S., Suttle, C.A., Middelboe, M. (2014). Dissecting the role of viruses in marine nutrient cycling: bacterial uptake of D- and L-amino acids released by viral lysis. *Aquat Microb Ecol* 73:235-243
- Christiansen, J.R., Romero, A.J.B., Jørgensen, N.O.G., Glaring, M.A., Jørgensen, C.J., Berg, L.K., Elberling, B. (2015). Methane fluxes and the functional groups of methanotrophs and methanogens in a young Arctic landscape on Disko Island, West Greenland. *Biogeochem.* 122:15-33
- Bak, F., Bonnichsen, L., Jørgensen, N.O.G., Nicolaisen, M.H., Nybroe, O. (2015) The biosurfactant viscosin transiently stimulates n-hexadecane mineralization by a bacterial consortium. *Appl Microbiol Biotechnol* 99: 1475-1483.
- Rayner, T.A., Jørgensen, N.O.G., Blanda, E., Wu, C.H., Huang, C.C., Mortensen, J., Hwang, J.S., Hansen, B.W. (2015). Biochemical composition of the promising live feed tropical calanoid copepod *Pseudodiaptomus anandalei* (Sewell 1919) cultured in Taiwanese outdoor aquaculture ponds. *Aquaculture* 441:25-34
- Leisner, J.J., Jørgensen, N.O.G., Middelboe, M. (2016). Predation and selection for antibiotic resistance in natural environments. *Evolutionary Applications*, 9: 427-434
- Burford, M., Podduturi, R., Jørgensen, N.O.G. (2016). Relations between abundance of potential geosmin- and 2-MIB-producing organisms and concentrations of these compounds in water from three Australian reservoirs. *Journal of Water Supply: Research and Technology – AQUA*, 65: 504-513.
- Mahmud, S., Lokman, M.A., Alam, M.A., Rahman, M.M., Jørgensen, N.O.G. (2016). Effect of probiotic and sand filtration treatments on water quality and growth of tilapia (*Oreochromis niloticus*) and pangas (*Pangasianodon hypophthalmus*) in earthen ponds of southern Bangladesh. *Journal of Applied Aquaculture*.
- Jakobsen, H.H., Jepsen, P.M., Blanda, E., Jørgensen, N.O.G., Novac, A., Engell-Sørensen, K., Hansen, B.W (2016). Plankton composition and biomass development: a seasonal study of a semi-intensive outdoor system for rearing of turbot. *Aquaculture Nutrition*, 22: 1239-1250.

#### **Other recent international publications - Encyclopedia**

Jørgensen, N.O.G. (2009) *Encyclopedia of Inland waters - Chapter 118: Carbohydrates - Cycles and dynamics*. Elsevier Science Publishers (web edition and book series).pp. 727-742.

Jørgensen, N.O.G. (2009) *Encyclopedia of Inland waters - Chapter 119: Organic Nitrogen - Cycles and dynamics*. Elsevier Science Publishers (web edition and book series). Pp. 832-851.

#### **Citation and publication record**

Number of articles in peer-reviewed international journals: 87.

From Web of Science: total number of citations = 2344; h-index = 31; average citations per article = 31.5.

#### **Link to department web site on IMPCON aquaculture project:**

[http://plen.ku.dk/english/research/microbial-ecology-and-biotechnology/env\\_microbiol/impcon-improvedqualityofculturedfishforhumanconsumption/](http://plen.ku.dk/english/research/microbial-ecology-and-biotechnology/env_microbiol/impcon-improvedqualityofculturedfishforhumanconsumption/)