

Odd Gunnar Brakstad
Senior Researcher, SINTEF Materials and Chemistry
Environmental Technology
Brattørkaia 17C
Trondheim, Norway 7010

Professional Preparation: Microbiologist, PhD

Undergraduate Institution: Norwegian University of Science and Technology (NTNU), Trondheim, Norway

Major: Botany/microbiology

Degree & Year: MSc, 1984

Graduate Institution: Norwegian University of Science and Technology (NTNU), Trondheim, Norway

Major: Medical microbiology

Degree & Year: PhD, 1995

Appointments:

- Senior Scientist at SINTEF Materials and Chemistry, Trondheim, Norway (since 1995)
- Research Scientist at SINTEF Materials and Chemistry, Trondheim, Norway (1988-1995)
- Research scholar at the Norwegian Research Council, Trondheim, Norway (1991-1993)
- Scientist BIONOR/ St. Olav Hospital, Trondheim, Norway (1987-1988)
- Chemist at the Public Health Service, Kongsberg, Norway (1985-1986)

Publications closely related to the proposed project:

1. Brakstad, O.G., Nordtug, T., Throne Holst, M. (2015). Biodegradation of dispersed Macondo oil in seawater at low temperature and different oil droplet sizes. *Mar. Pollut. Bull.* 93: 144-152 (DOI: 10.1016/j.marpolbul.2015.02.006).
2. Brakstad, O.G., Throne-Holst, M., Netzer, R., Stoeckel, D.M., Atlas, R.M. (2015). Microbial communities related to biodegradation of dispersed Macondo oil at low seawater temperature with Norwegian coastal seawater. *Microb. Biotechnol.* 8: 989-998 (DOI: 10.1111/1751-7915.12303).
3. Brakstad, O. G., Daling, P. S., Faksness, L. G., Almås, I. K., Vang, S. H., Syslak, L., Leirvik, F. (2014). Depletion and biodegradation of hydrocarbons in dispersions and emulsions of the Macondo 252 oil generated in an oil-on-seawater mesocosm flume basin. *Mar. Pollut. Bull.* 84: 125-134 (DOI: 10.1016/j.marpolbul.2014.05.027)
4. Brakstad, O.G., Bonaunet, K. (2006). Biodegradation of petroleum hydrocarbons in seawater at low temperatures (0-5°C) and bacterial communities associated with degradation. *Biodegradation.* 17: 71 – 82 (DOI: 10.1007/s10532-005-3342-8).
5. Brakstad, O.G., Bonaunet, K., Nordtug, T., Johansen, Ø. (2004). Biotransformation of petroleum hydrocarbons in natural flowing seawater at low temperature. *Biodegradation.* 15:337-346 (DOI:10.1023/B:BIOD.0000042189.69946.07)

Other relevant publications:

1. Lofthus, S., Almås, I.K., Evans, P., Pelz, O., Brakstad, O.G. (2016). Biotransformation of potentially persistent alkylphenols in natural seawater. *Chemosphere* 156: 191-194 (DOI: 10.1016/j.chemosphere.2016.04.132).
2. Størdal, I.F., Olsen, A.J., Jenssen, B.M., Netzer, R., Altin, D., Brakstad, O.G. (2015). Biotransformation of petroleum hydrocarbons and microbial communities in seawater with oil

dispersions and copepod feces. *Mar. Pollut. Bull.* 101: 686-693 (DOI: 10.1016/j.marpolbul.2015.10.029).

3. Melbye, A.G., Brakstad, O.G., Hokstad, J.N., Gregersen, I.K., Hansen, B.H., Booth, A.M., Rowland, S.J. Tollefsen, K.E (2009). Chemical and toxicological characterisation of an unresolved complex mixture (UCM)-rich biodegraded crude oil. *Environ. Toxicol. Chem.* 28: 1815-1824 (DOI: 10.1897/08-545).
4. Brakstad, O.G., Nonstad, I., Faksness, L.-G., Brandvik, P.J. (2008). Microbial communities in Arctic fjord ice contaminated with crude petroleum oils. *Microb. Ecol.* 55: 540-552 (DOI: 10.1007/s00248-007-9299-x)
5. Brakstad, O.G., Booth, A., Eide-Haugmo, I., Skjæran, J.A., Sørheim, K.R., Bonaunet, K., Vang, S.-H., da Silva, E.F. (2012). Seawater biodegradation of alkanolamines used for CO₂-capture from natural gas. *Int. J.Greenhouse Gas Control* 10: 271-277 (DOI: 10.1016/j.ijggc.2012.06.016).

Synergistic Activities:

1. Obtaining oil compound biodegradation data to be implemented in oil spill models at SINTEF
2. Characterization of microbial communities in hot offshore oil reservoirs and in relation to oil spill biodegradation in cold marine environments (sea and sea ice)
3. Standard ecotoxicity testing of offshore chemicals at SINTEF
4. Environmental impact studies of carbon capture technologies
5. Analyses of marine biofilms and biocorrosion (sulphate-reducing prokaryotes)

Collaborators & Other Affiliations:

Collaborators/co-authors: Aas, N (Det Norske), Altin, D (Biotrix), Atlas, R (UKoxville), Brønner, U (SINTEF), Daae, R (SINTEF), Daling P (SINTEF), Drabløs, F (NTNU), Evans, P (BP), Faith, S (Batelle), Frost, T (Statoil), Hansen, B (SINTEF), Haugerud, A (Statoil), Hofstad, K (Statoil), Jensen, B (NTNU), Kjeilen-Eilertsen, G (Total), Lofthus, S (NTNU), Lura, H (ConocoPhillips), Netzer, R (SINTEF), Nordtug, T (SINTEF), Nygaard, C (Statoil), Olsen, A (NTNU), Pelz, O (BP), Prince, R (ExxonMobil), Ribicic, D (NTNU), Singsaas, I (SINTEF), Skancke, J (SINTEF), Stoeckel, D (Batelle), Størdal, I (NTNU); Størseth, T (SINTEF), Sørheim, K (SINTEF), Throne-Holst, M (SINTEF), Zahlsen K (SINTEF), Øye, K (Statoil)

Co-editors: None

Graduate and Postdoctoral Advisors: Professor J. A. Mæland (Emeritus), NTNU

Thesis Advisor and Postgraduate-Scholar Sponsor: K. Kaster, (PhD, University of Stavanger), I. Størdal (PhD, NTNU), D. Ribicic (PhD, NTNU), S. Lofthus (PhD, NTNU)

Graduate students: 6