

2007 Clarke Prize Laureate

James L. Barnard, Ph.D., Pr.Eng., BCEE

*Global Practice and Technology Leader for Advanced Biological Treatment
Black & Veatch Corporation*

For over 40 years, Dr. James Barnard has traveled the world researching and implementing better ways to conserve water resources and improve wastewater treatment. His groundbreaking application of bacteria to remove both nitrogen and phosphorous from water revolutionized wastewater treatment processes, allowing treatment plants to employ Barnard's biological nutrient removal (BNR) as a more economic and environmentally friendly alternative to traditional chemical treatment. By enabling nutrient removal with a natural biological process, BNR makes it possible to return treated wastewater to receiving waters (such as rivers and oceans) with minimal detrimental impact to environmental quality.



Deemed “the Father of BNR,” Barnard not only created the process, but also actively designs and supervises the construction and start-up of BNR systems in various parts of the world, constantly adapting his innovative technology to varying climates, existing infrastructure, and environmental pressures. Another of Barnard's most notable achievements includes his 10-year service on the Nitrogen Technical Advisory Panel for the New York City Department of Environmental Protection, where he helped guide a \$50 million BNR research and development program for the Upper East River and Jamaica Bay areas. At present, Barnard serves as a Global Practice and Technology Leader for Advanced Biological Treatment for Black & Veatch Corporation in Kansas City, Missouri.