

Contact: Diana Gonzalez

**REQUEST TO AWARD AN HONORARY DOCTOR OF SCIENCE DEGREE
AT IOWA STATE UNIVERSITY**

Action Requested: Consider approval of the request by Iowa State University to award an honorary Doctor of Science degree to James L. Barnard at Fall 2012 Commencement.

Executive Summary: Iowa State University wishes to recognize Dr. Barnard for his outstanding contributions to global environmental protection through his innovative work in wastewater treatment and water quality.

Details on Dr. Barnard's Accomplishments:

- ◇ Dr. Barnard received Bachelor of Science and Bachelor of Engineering degrees in civil engineering from Stellenbosch University, South Africa, in 1956 and Master of Science and Ph.D. degrees in environmental engineering from the University of Texas in 1969 and 1971, respectively.
- ◇ He spent the first 11 years of his career in South Africa, including work in private industry, as municipal engineer in Bellville, and as a researcher with the National Building Research Institute. His focus was on the study of corrosion of concrete sewers.
- ◇ In 1967, he began graduate study on industrial wastewater treatment at the University of Texas with the renowned Dr. Wesley Eckenfelder; his research and thesis involved the clean-up of the Houston Ship Channel.
- ◇ In 1971, Dr. Barnard returned to South Africa to continue his research at the National Water Institute. During that time, he focused on using biological methods, such as bacteria, rather than expensive chemicals to remove nutrients from wastewater. If nutrients, including nitrogen and phosphorus, are not removed from wastewater, they cause excessive algae growth in bodies of water where wastewater is discharged which can lead to devastating environmental impacts, such as the "dead zone" at the mouth of the Mississippi River in the Gulf of Mexico.
- ◇ Dr. Barnard currently serves as the global practice and technology leader for Black and Veatch, a leading global engineering, consulting, and construction company with more than 100 offices worldwide.
- ◇ Dr. Barnard's research proved that the biological approach was effective in removing nitrogen and phosphorus at a much lower cost and environmental impact than chemicals. It led him to develop the two processes that are now the standard for biological nutrient removal and which are in use throughout the world. Both processes bear his name.
- ◇ The scientific community was slow to accept Dr. Barnard's findings because it seemed unlikely that a biological process using bacteria would be able to remove the nutrients on the massive scale needed for metropolitan municipal and industrial wastewater treatment plants. After developing his processes, Dr. Barnard worked to prove that the processes work by correcting misinformation. Today, Dr. Barnard's science is considered the accepted approach for environmentally sustainable wastewater management and resource recovery.

- ◇ Dr. Barnard has received numerous honors and awards for his research and technology developments, such as the Clarke Prize for Outstanding Achievement in Water Science and Technology, Lew Kuan Yew International Water Prize, International Water Association Koch/Imhoff and Council of Distinguished Professionals Awards, and the Water Environment Federation (WEF) Thomas R. Camp Award. He is also a Fellow of the WEF.

- ◇ Dr. Barnard is considered the “father of biological nutrient removal,” which is widely regarded as one of the most important advancements in wastewater treatment in the past century. Iowa State University wishes to recognize Dr. Barnard’s extraordinary accomplishments with an honorary degree.