

IOWA STATE UNIVERSITY

Department of Civil, Construction, and Environmental Engineering

J. (HANS) VAN LEEUWEN

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EDUCATION

University of Pretoria, D. Eng. Environmental Engineering, 1988
Graduate Diploma of Tertiary Education, 1983
University of Pretoria, M.S., 1979
University of Pretoria, B.S., 1975

RECENT HONORS AND AWARDS

- 2009: Innovator of the Year - R&D Magazine
- Collaboration Excellence - Dean, Mersin University (Turkey)
- R&D 100 Awards as team leader: Mycofuel fungal process for biodiesel from plant processing wasters, 2009. MycoMax fungal process for additional ethanol plant coproduct, 2008
- Grand Prize University Research - American Academy of Environmental Engineers: Bio-oil from an integrated fungal lignocellulosic biorefinery, 2009. Fungal process for ethanol plant stillage beneficiation, 2008. Ethanol purification with ozonation and activated carbon, 2007.
- 2009: Iowa State University Award for Outstanding Achievement in Research
- 2008: Nominee (1 of 5 finalists) for Innovator of the Year, R&D Magazine
- 2008: Innovation Merit Award - Water reclamation on ethanol plants with fungal process, International Water Association, Vienna

RECENT PUBLICATIONS

- Rasmussen, M.L., Shrestha, P., Khanal, S.K., Pometto III, A.L., van Leeuwen, J. (2010) Sequential saccharification of corn fiber and ethanol production by the brown-rot fungus *Gloeophyllum trabeum*. *Bioresource Tech.* 101(10) 3526.
- Sankaran, S., Khanal, S.K., Pometto, A.L., van Leeuwen, J. (2010) Use of filamentous fungi for wastewater treatment and production of high value fungal by-products: A review. *Critical Reviews in Environ. Sci & Biotech.* 40(5).
- Shrestha, P.; Khanal, S. K.; Pometto, A. L.; van Leeuwen, J (Hans) (2010). Ethanol production via in situ fungal saccharification and fermentation of mild alkali and steam pretreated corn fiber *Bioresource Tech* 101, 8698–8705.

- Mitra, D., Pometto, A. L. III, Khanal, S. K., Karki, B., Brehm-Stecher, B. F. and van Leeuwen J. (Hans) (2010) Value-added production of nisin from soy whey, *Applied Biochem and Biotech* 162(7)1819 – 33.

TEACHING

CE 101: Intro to Civil Engineering
CE 105: Intro to the Civil Engineering Profession
CE 203/205: Engineering Economic Analysis and Communication
BioE 202: Intro to Bioengineering
HON 290: Special Problems (Honors Program)
CE 326: Principles of Environmental Engineering
ENGR 320: International Experience Report
CE 427: Environmental Engineering and Science
CE 485: Civil Engineering Design I (as environmental advisor)
CE 486: Civil Engineering Design II (as environmental advisor)
CE/AE/BRT 411/511: Bioprocessing and Bioproducts
CE 420/520: Environmental Engineering Chemistry
CE 523: Physical-Chemical Water Treatment Processes
CE/AE/EnSci 424/524: Air Pollution
CE 525: Industrial Wastewater and Resource Recovery
CE 490/590: Special Topics
CE 591: Seminar in Environmental Engineering

RESEARCH

- Conversion of organic materials in ethanol stillage into valuable fungal biomass with concomitant water reclamation
- White and brown-rot fungal production of biofuels from lignocellulosic material/waste
- Bacterial methodology to process soy wastes to derive food preservatives and valuable probiotics
- Ozonation and/or granular activated carbon for industrial disinfection and purification
- Ethanol purification with ozonation and activated carbon
- Ships' ballast water ozonation for disinfestation to prevent ecological disasters
- Useful application of water treatment residuals and flue gas contaminants with resource recovery