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Front Cover Story (see: Yuxin Li, Jiayin Ling, Pengcheng Chen, Jinliang Chen, Ruizhi Dai, Jinsong Liao, Jiejing Yu, Yanbin Xu, 2021, 15(4): 57)

The livestock and poultry industry is very important for national life, supporting the policies of people's livelihood and economic development. Pollutants from livestock and poultry has become the source of pollution over industrial pollution, which aggravated non-point pollution in rural area and might increase water shortage, and more serious rigid discharging standards were urgent. To prevent the environmental harm caused by livestock and poultry breeding pollution, in recent years, scale production of livestock and poultry breeding and its wastewater treatment techniques developed rapidly. The biological process combining anoxic fermentation and AO has become the mainstream, but nitrogen removal was blocked for the water quality reason of much hard biodegradable macromolecular and low carbon:nitrogen ratios. This research focused on the problems of nitrate accumulation and incomplete denitrification that often occurred in above process. An isolate *Pseudomonas mendocina* LYX was isolated and inoculated into aerobic tank, removing nitrate effectively under aerobic conditions, which was a good way to replenish the heterotrophic anaerobic denitrification and overcome water quality limitations. The denitrification pathway and principle of this strain also be analyzed by gene amplification and ^{15}N tracing technique, which could provide a theoretical basis for the application of this strain in resolving the problem of nitrate accumulation of wastewater treatment.

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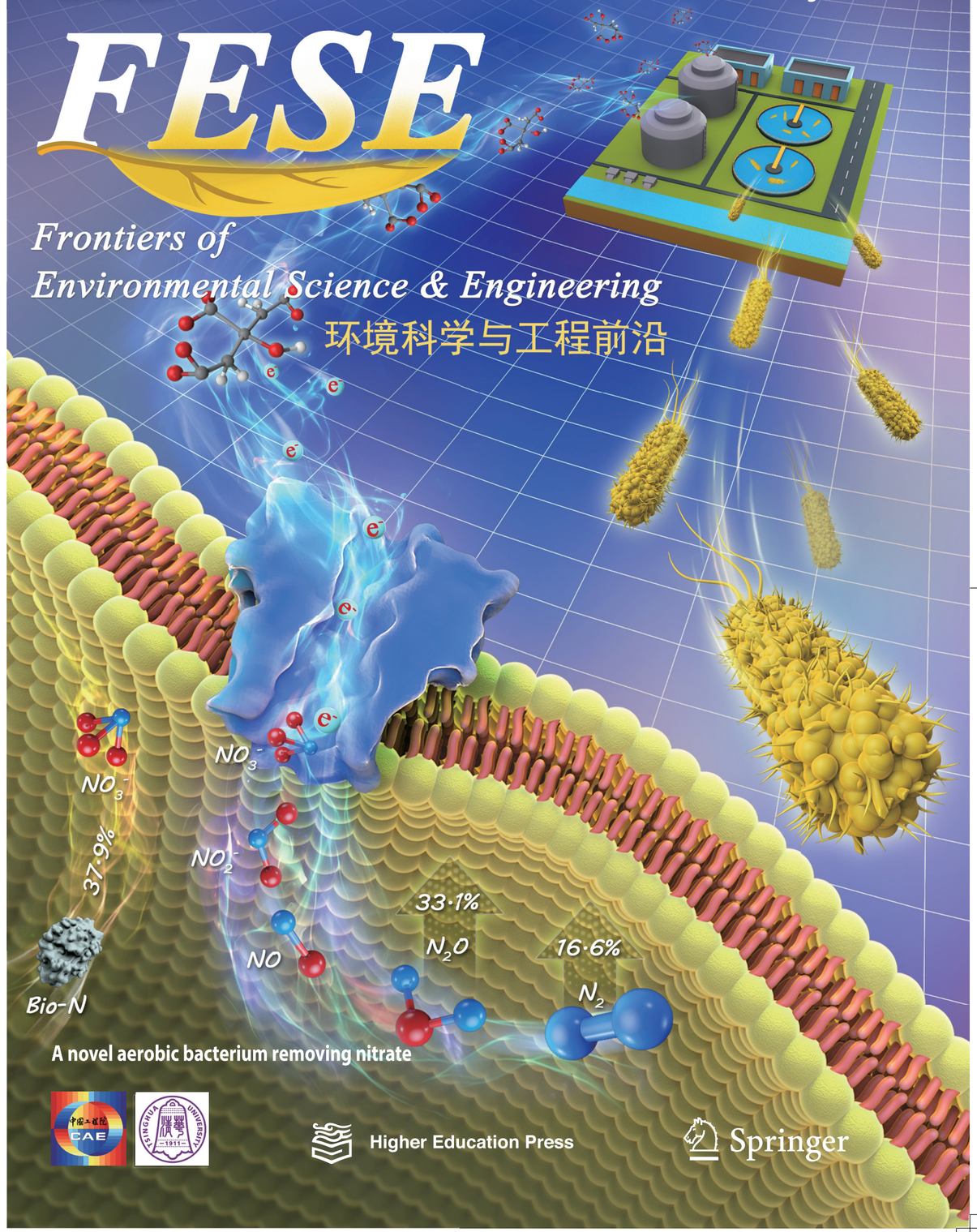

A novel aerobic bacterium removing nitrate

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