

### 나노입자처리를 위한 하수처리장 제어 모델 개발

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Silver nanoparticles (AgNPs) toxicity in wastewater can be controlled in wastewater treatment plant systems. In the present study it was developed an of the nanomaterial removal in the benchmark simulation model No. 1 (BSM1) of a WWTP, which was adapted in its biological compartments based on the most known mechanisms of AgNPs (sorption, dissolution, and inhibition). There were compared the AgNPs removal efficiencies for conditions before and after influent nanomaterial, jointly with an evaluation of different control strategies for studying the variance in removal of AgNPs. The results showed a great removal improvement of AgNPs as well as for nitrogen (N) and chemical oxygen demand (COD). The present model could provide some advance of removal of nanomaterial from wastewater treatment systems. Acknowledgements: This work was supported by the National Research Foundation of Korea (NRF) grant funded by the Korean government (MSIP) (No. 2017R1E1A1A03070713).