

# 環境工程研究所

**Graduate Institute of Environmental Engineering** 

### **Environmental Biotechnology Laboratory**

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#### Simultaneous nitrogen and sulfur removal through of sulfammox, anammox and denitrification process

- Removal of ammonium and nitrate through anammox and autotrophic denitrification.
- Sulfate reducing ammonium oxidation (sulfammox) process under anaerobic conditions.







昀珊 Iva Yenis

## OAO processes / COD Classification / AI application

- Evaluating the effectiveness of nitrogen removal in anoxic conditions in OAO processes.
- Optimizing the operation parameters of OAO processes to achieve energy savings.









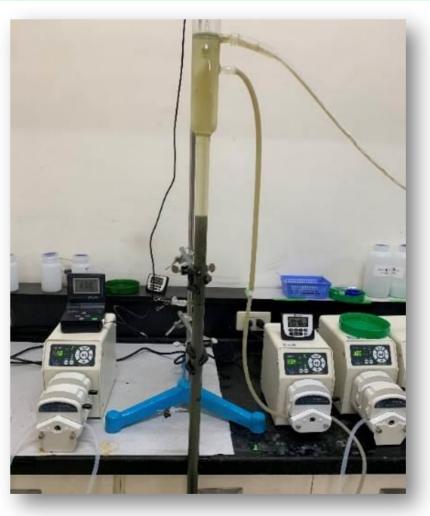
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### Phosphorus Removal and Recovery

- Recovery of phosphorus from wastewater by fluidized-bed crystallization.
- Removal of phosphorus from wastewater by adsorbent.
- Crystals product and reaction characteristics of FBC reactor for source recovery from sludge dewatering filtrate.







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### Sulfur Autotrophic Denitrification Process

- The denitrification process uses inorganic sulfur compounds as an electron donor.
- The development of sulfur carriers containing alkalinity sources in a fluidized bed bioreactor.
- Sulfur autotrophic denitrification is more economical and produces less sludge compared to traditional denitrification methods.









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