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# UEE Seminar Series

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## Remote monitoring and predication of Cyanobacterial blooms in eutrophic lakes

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The occurrence and related risks from cyanobacterial blooms have increased world-wide over the past 40 years. Information on the abundance and distribution of cyanobacteria is fundamental to support risk assessment and management activities. In the present study, an approach based on Empirical Orthogonal Function (EOF) analysis was used to estimate the concentrations of chlorophyll a (Chla) and the cyanobacterial biomarker pigment phycocyanin (PC) using data from the MODerate resolution Imaging Spectroradiometer (MODIS) in inland lakes. The resultant MODIS Chla and PC products were then used for cyanobacterial risk mapping with a decision tree classification model. The resulting Water Quality Decision Matrix (WQDM) was designed to assist authorities in the identification of possible intake areas, as well as specific months when higher frequency monitoring and more intense water treatment would be required if the location of the present intake area remained the same. Remote sensing cyanobacterial risk mapping provides a new tool for reservoir and lake management programs. Additionally, depending on the satellite remote sensing results, combined with hydrodynamic models, etc., the occurrence and development of cyanobacterial blooms can be predicted. This study also provides a case study showing the construction and simulation results of the cyanobacteria bloom prediction model.



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- **When :** 2018.11.29.(Thu) 2 p.m.
- **Where:** Bldg.110(EB4), Room.1007
- **Host :** Prof. Cho, Kyunghwa  
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