

The Chinese University of Hong Kong  
Department of Geography and Resource Management

will present a seminar

by

**Dr. Gong Ran**

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**Water Quality Simulation and Prediction Technology in the Management of Aquatic Environment of Lakes**

**Abstract:**

The speaker will give a talk on simulation and prediction technology in lake water quality management. One of shallow lakes in Lake Taihu basin, China-Lake Gehu, was selected to be an example. Lake Gehu once has flourish aquatic plants, good water quality, and favorable ecological environment. However, their water ecological environment has been significantly changed in the past two decades, with degradation from the “grass-limpid” type to the “algae-turbid” type, and algae-bloom occurs sometimes. The speaker tries to use modeling method to accurately estimate the amount of phosphorus release from sediment, which was regarded as a nutritive limiting factor of eutrophication. Particularly, a phosphorus flux model was developed on the basis of diagenesis theory, and was coupled into the overlying water quality model via resuspension flux, in order to investigate phosphorus release considering two common mechanisms of diagenesis and sediment resuspension, and to simulate the critical exchange process of phosphorus at the “sediment-water” interface. The future trends of model application in aquatic environment will be also introduced.

**About the Speaker:**

Dr. Gong Ran is currently serving as associate professor in School of Environmental Engineering, Nanjing Institute of Technology. He graduated from the major of Civil Engineering at Hohai University (year 2003) and gained the Master’s and Doctor’s degree of Environmental Science and Engineering at Hohai University on Jun. 2006 and Dec. 2017 respectively. His teaching courses include Hydraulics, Water Environment Modeling, Noise Control Engineering, and CAD Technology. His research fields are (1) Simulation and prediction of hydrodynamic-water quality processes of rivers and lakes; (2) Water quality assessment/evaluation ; (3) Hydrological system planning/evaluation ; (4) Pollutant transport and fate/emergency discharge event warning.

**Language: Putonghua**

**Date: 10 January 2019 (Thursday)**

**Time: 4:30-6:00pm**

**Venue: Room 221**

**Chen Kou Bun Building**

**Chung Chi College**

**~All are Welcome~**

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