



DEPARTMENT OF CIVIL ENGINEERING

SEMINAR

**Introduction of the Archimedean screw to East Asia (China, Korea, Japan)**

Professor Albert Koenig

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Date: November 08, 2019 (Friday)  
Time: 5:00 p.m. - 6:00 p.m.  
Venue: Room 632C, Haking Wong Building  
The University of Hong Kong

**ABSTRACT**

The Jesuits played an important role in the transmission of Western science and technology to China during the 17th and 18th century; however, their impact on water technology has received scant attention so far. As a case in point, Sabatino de Ursis S.J. 熊三拔 (1575-1620), in collaboration with the Chinese official Xu Guangqi 徐光啟 (1562-1633), published in 1612 *Taixi Shuifa* 泰西水法 [Hydraulic methods of the Far West], the earliest book in China on Western water-lifting devices, which contained a detailed description of the Archimedean screw pump. This talk presents its reception and application in China as well as the transmission of its knowledge to Korea and Japan. Whilst the impact of the Archimedean screw pump in China and Korea remained rather limited, the screw pump was widely used to drain water from gold mines in the Japanese Sado Island from as early as 1635. This fact became known outside Japan only in the very late 1800s, when hand-coloured picture scrolls about the Japanese gold mining process became available, which showed various applications of Archimedean screw pumps. The pumps were apparently made according to the manufacturing instructions in *Taixi Shuifa*. The talk will be richly illustrated with contemporary documents and examples of mining scrolls.

**ABOUT THE SPEAKER**

Professor Albert Koenig obtained a BSAE degree from the University of the Philippines at Los Baños, followed by an MS and PhD from Cornell University. He has worked for more than thirty years in academia, industry and government in various countries, always in the area of environmental engineering. In 1992 he joined the Department of Civil Engineering at the University of Hong Kong. After his retirement in 2009, he held visiting positions at the University of Padua, Italy and the University of Hong Kong where he is currently an Adjunct Professor. Since 2018, he also serves as visiting professor at Chuhai College of Higher Education. He is a member of several professional associations, including HKIE and the International Water Association (IWA), Specialist Group on Water and Wastewater in Ancient Civilizations.

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