



Co-funded by the  
Erasmus+ Programme  
of the European Union

# Soil Acidification and its control strategies

## Abstract

Soil acidification is a natural process during soil formation and its rate is very slow under natural conditions. While soil acidification was accelerated greatly due to acid deposition and excess application of chemical N fertilizers in past 30 years in China. This lecture will present on eight aspects of soil acidification: 1. Acid soils and their distribution; 2. Several key words related to soil acidification; 3. Soil acidification under natural conditions; 4. Effects of acid deposition on soil acidification; 5. Effects of agricultural practices on soil acidification; 6. Negative impacts of soil acidification on agricultural and environment; 7. Control strategies for soil acidification; 8. Amelioration of acidic soils. This lecture can serve as a 101 for students who are interested in soil acidification in China.

## Biography:

Renkou Xu, Ph.D., Institute of Soil Science, Chinese Academy of Sciences (ISSAS): Dr. Xu is a professor of soil chemistry at ISSAS. He graduated from Department of Chemistry, Xuzhou Normal University in 1988 and obtained his M.S. degree and Ph. D in this institute in 1991 and 1997, respectively. He had been visiting Australia for almost one year from December, 1999 to November, 2000 and worked in Department of Agronomy and Farming Systems in Adelaide University on soil acidification. He was pointed as a research professor by the Institute in 2004 and since then he has been a leader of the group of Soil Surface Chemistry. He had been visiting Department of Soil Science, University of Saskatchewan, Canada as visiting professor from 2007.2-2007.6 and 2008.1-2008.3. He was pointed as the director of Department of Soil Chemistry and Environmental Protection by Institute of Soil Science, CAS since 2012 and the deputy director of Soil Chemistry Division of Soil Science Society of China since 2008. He has been a scientific advisor for International Foundation for Science since 2007. He focuses on his main interests in these aspects: (1) soil acidification, melioration of acid soils and control of aluminum toxicity to plants; (2) surface chemical characteristics of variable charge soils; (3) chemical behaviors of heavy metals in acidic soils.





Co-funded by the  
Erasmus+ Programme  
of the European Union

# Contaminated Site Remediation Industry in China: Status Quo and Future Trend

## Abstract

Soil and groundwater contamination has been a major environmental concern in China. This lecture will present on four aspects of contaminated site remediation industry: soil and groundwater contamination and source identification, insight on current policy, remediation technologies, and future trend. The purpose of this lecture is put the soil and groundwater remediation industry in China in a historical perspective, and to identify the issues that occurred and explore potential solutions to address these issues. This lecture can serve as a 101 for students who are interested in the soil and groundwater quality in China.

## Biography:

Xin Song, Ph.D., P.E. (California), Institute of Soil Science, Chinese Academy of Sciences (ISSAS): Dr. Song is a professor with ISSAS. Prior to joining ISSAS, she worked as a hydrogeologist/environmental engineer in ARCADIS U.S. Inc. from 2005 to 2013. Prof. Song received her Ph.D. degree in Civil and Environmental Engineering from University of Maryland (College Park) in USA, her master's degree in Environmental Science from Tsinghua University in China, and her bachelor's degree in Environmental Engineering from Dalian University of Science and Technology in China. She specializes soil and groundwater remediation, with focus on in-situ bioremediation, in-situ chemical oxidation/chemical reduction, groundwater flow and solute transport analysis, and environmental impact assessment for the mining industry.





Co-funded by the  
Erasmus+ Programme  
of the European Union

# Investigation of ARB/ARGs contamination in the agricultural soil in the Yangtze Delta, China

## Abstract

Abusive use of antibiotics has resulted in the emergence of various antibiotic resistant bacteria (ARB) and genes (ARGs). Transmission with the food web, they have brought serious threat against human health and environmental safety. Therefore, it is urgent to investigate the underlying ARB/ARGs transmission mechanisms in the environment, and more importantly, the targeting technology to control their transmission, and decrease the environmental risk. This presentation mainly focuses on the investigation of ARB/ARGs contamination in the agricultural soil in the Yangtze Delta, China, and the development of targeting technology to control their dissemination.

## Biography:

Mao Ye, Ph.D., Institute of Soil Science, Chinese Academy of Sciences (ISSAS): Dr. Ye is an associate professor with ISSAS. Dr. Ye received his Ph.D. degree in Environmental Science in the ISSAS. He was a postdoctoral fellow in the University of Nebraska-Lincoln and Texas A&M University. He has published more than 40 SCI research papers in internationally famous journals. He was elected to the young talent prize of Chinese Academy of Sciences. He specializes in the remediation techniques for organic and inorganic compounds mixed contaminated sites. He is now a member of the American Chemical Society.





Co-funded by the  
Erasmus+ Programme  
of the European Union

# Soil Cd Contamination in China and Countermeasures

## Abstract

As a legacy of fast industrialization and booming economy over the past 30 years, China saw deterioration of environmental quality, including soil. Recent national soil pollution survey revealed that Cd is the major contaminant of concern (COC) for cultivated land in China. With rice being the most important staple food, and preferential accumulation of Cd in rice grains, elevated concentration of Cd in rice grains has caused human health concerns in areas with metal mining and smelting activities.

This presentation covers the latest development in the derivation and validation of Cd threshold value in agricultural soil, source apportionment as well as measures for risk management and remediation of Cd contaminated agricultural soils.

## Biography:

Dr. Song (1974) received his BSc. Degree in Soil Chemistry in 1996 from Nanjing Agricultural University and his MSc Degree in Environmental Chemistry in 1999 from Zhejiang University. In 2002, he graduated with his PhD Degree in Soil Chemistry at the Institute of Soil Science, Chinese Academy of Sciences (ISS, CAS). Since 2002, he has been working at ISSCAS and became an associate researcher in 2005. Dr. Song's main research interests include bioavailability of soil pollutants, derivation of risk based soil environmental standards and R&D of physio-chemical remediation technologies for polluted soil/site. He has been active in joint research projects with Rothamsted Research, UK (2001-2004) and Wageningen University and Research Center, the Netherlands (2004-2008).

Dr. Song is a member of the Soil Environment Committee, Chinese Society of Soil Sciences (since 2005), Senior Associate Editor for heavy metals of the International Journal of Phytoremediation (since 2010), a member of the Board of Directors of the International Society of Phytotechnology (2015-2017).

