



## Risk Assessment

### 1- Pedestrian-Aware Statistical Risk Assessment

By:

[Shen, X](#) (Shen, Xun) [\[1\]](#); [Raksincharoensak, P](#) (Raksincharoensak, Pongsathorn) [\[1\]](#)

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### Abstract

This paper proposes a statistical framework to assess the risk of passing a non-signalized intersection for vehicles. First, an intensity model of the near-accident event is established by regarding the near-accident event as a non-homogeneous Poisson process. The non-homogeneous Poisson process is defined on the sigma-algebra of the 2-dimension plane of vehicle velocity and distance to the intersection instead of in the time axis. On the other hand, the pedestrian intention is defined as a binary variable with 1 as passing through the crosswalk and 0 as stopping. Logistic function is applied to model the probability of pedestrian intention. The proposed statistical models are evaluated by the residual analysis-based model checking method. Besides, based on the two models, the pedestrian-aware risk model is established to give a predictive risk metric quantitatively when pedestrian appears.

### Keywords

#### Author Keywords

[Modeling](#)[Measurement](#)[Predictive models](#)[Risk management](#)[Logistics](#)[Analytical models](#)[Earthquakes](#)[Near-accident event](#)[pedestrian behavior](#)[Poisson process](#)[logistic regression](#)

#### Keywords Plus

[RESIDUAL ANALYSIS](#)[MODELS](#)



## Risk Assessment

### 2- Genetic/Familial High-Risk Assessment: Breast, Ovarian, and Pancreatic, Version 2.2021

**By:**

[Daly, MB](#) (Daly, Mary B.) [1]; [Pal, T](#) (Pal, Tuya) [2]; [Berry, MP](#) (Berry, Michael P.) [3]; [Buys, SS](#) (Buys, Sandra S.) [4]; [Dickson, P](#) (Dickson, Patricia) [5], [6]; [Domchek, SM](#) (Domchek, Susan M.) [7]; [Elkhanany, A](#) (Elkhanany, Ahmed) [8]; [Friedman, S](#) (Friedman, Susan) [9]; [Goggins, M](#) (Goggins, Michael) [10]; [Hutton, ML](#) (Hutton, Mollie L.) [11];

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Review

**Abstract**

The NCCN Guidelines for Genetic/Familial High-Risk Assessment: Breast, Ovarian, and Pancreatic focus primarily on assessment of pathogenic or likely pathogenic variants associated with increased risk of breast, ovarian, and pancreatic cancer and recommended approaches to genetic testing/counseling and management strategies in individuals with these pathogenic or likely pathogenic variants. This manuscript focuses on cancer risk and risk management for BRCA-related breast/ovarian cancer syndrome and Li-Fraumeni syndrome. Carriers of a BRCA1/2 pathogenic or likely pathogenic variant have an excessive risk for both breast and ovarian cancer that warrants consideration of more intensive screening and preventive strategies. There is also evidence that risks of prostate cancer and pancreatic cancer are elevated in these carriers. Li-Fraumeni syndrome is a highly penetrant cancer syndrome associated with a high lifetime risk for cancer, including soft tissue sarcomas, osteosarcomas, premenopausal breast cancer, colon cancer, gastric cancer, adrenocortical carcinoma, and brain tumors.

**Keywords**

**Keywords Plus**

[BRCA2 MUTATION CARRIERSREDUCING SALPINGO-OOPHORECTOMYLI-FRAUMENI-SYNDROME](#)[PREIMPLANTATION GENETIC DIAGNOSIS](#)[BILATERAL PROPHYLACTIC MASTECTOMY](#)[SURGICAL](#)



## Risk Assessment

ADJUVANT BREASTORAL-CONTRACEPTIVE USEHORMONE REPLACEMENT THERAPYUTERINE SEROUS  
CARCINOMAHIGH FAMILIAL RISK



## Risk Assessment

### 3- Municipal solid waste management: Dynamics, risk assessment, ecological influence, advancements, constraints and perspectives

By:

[Vyas, S](#) (Vyas, Shaili) [\[1\]](#), [\[2\]](#); [Prajapati, P](#) (Prajapati, Priya) [\[1\]](#), [\[2\]](#); [Shah, AV](#) (Shah, Anil V.) [\[1\]](#); [Varjani, S](#) (Varjani, Sunita) [\[1\]](#)

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Review

**Abstract**

Global energy consumption has been increasing in tandem with economic growth, putting pressure on the world's supply of renewable energy sources. Municipal Solid waste (MSW) has been reported contributing immensely to the improvement of a secure environment and renewable sources. Energy scarcity and conventional MSW disposal methods in developing countries lead towards many environmental and economic issues. Scientists have been able to experiment with various waste-to-energy conversion technologies in light of this situation. This communication highlights and reviews WtE technologies to convert MSW and other feedstocks into electricity, hydrogen gas, bioethanol along with other value added products like fertilizer(s), platform chemicals as an environmentally friendly products. This review comprehensively summarized the dynamics, risk assessment, ecological influence, advancements, constraints and perspectives altogether in field of municipal solid waste management and treatment. Stare-of-the-art information on ecological influence and risk assessment in handling and transportation of municipal solid waste has been provided. Advanced trends involved in remediation of emerging pollutants and resources obtained from municipal solid wastes have been uncovered. Lastly, this paper comprises constraints and perspectives for uncovering MSW based circular bioeconomy aspects.

**Keywords**

**Author Keywords**

[Risk assessment](#)[Treatment technologies](#)[Landfill](#)[Sustainable energy](#)[Waste to energy](#)

**Keywords Plus**



## Risk Assessment

MECHANICAL BIOLOGICAL TREATMENT MICROBIAL FUEL-CELLS ANAEROBIC-DIGESTION ENVIRONMENTAL ASSESSMENT OCCUPATIONAL-HEALTH COLLECTION ANALYSIS BIOFUEL PRODUCTION AIR-POLLUTION HEAVY-METALS LANDFILL



## Risk Assessment

### 4- Occurrence, fate, and risk assessment of typical tetracycline antibiotics in the aquatic environment:

#### A review

#### By:

[Xu, LY](#) (Xu, Longyao) [1], [2]; [Zhang, H](#) (Zhang, He) [1], [2]; [Xiong, P](#) (Xiong, Ping) [1], [2]; [Zhu, QQ](#) (Zhu, Qingqing) [1], [2]; [Liao, CY](#) (Liao, Chunyang) [1], [2], [3], [4]; [Jiang, GB](#) (Jiang, Guibin) [1], [2], [3], [4]

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Review

#### Abstract

Tetracyclines (TCs), used as human and veterinary medicines, are the most widely used antibiotics. More than 75% of TCs are excreted in an active form and released into the environment through human and animal urine and feces, causing adverse effects on the ecological system and human health. Few articles review the environmental occurrence and behaviors of TCs, as well as their risks and toxicities. Here, we comprehensively summarized the recent advances on the following important issues: (1) Environmental occurrence of TCs. TCs are used globally and their occurrence in the aquatic environment has been documented, including surface water, ground-water, drinking water, wastewater, sediment, and sludge. (2) Environmental behaviors of TCs, particularly the fate of TCs in wastewater treatment plants (WWTPs). Most WWTPs cannot effectively remove TCs from wastewater, so alternative methods for efficient removal of TCs need to be developed. The latest degradation methods of TCs are summarized, including adsorption, photocatalytic, photochemical and electrochemical, and biological degradations. (3) Toxicities and possible risks of TCs. The toxicological data of TCs indicate that several TCs are more toxic to algae than fish and daphnia. Risk assessments based on individual compound exposure indicate that the risks arising from the current concentrations of TCs in the aquatic environment cannot be ignored. (c) 2020 Elsevier B.V. All rights reserved.

#### Keywords

#### Author Keywords

[Tetracycline antibiotics](#)[Environmental occurrence](#)[Fate](#)[Toxicity](#)[Risk assessment](#)

#### Keywords Plus



## Risk Assessment

WATER TREATMENT PLANTS CORRESPONDING RESISTANCE GENES SWINE WASTE-WATER DRINKING-WATER PHOTOCATALYTIC DEGRADATION VETERINARY ANTIBIOTICS AQUEOUS-SOLUTIONS SURFACE-WATER EFFICIENT ADSORPTION SEASONAL-VARIATION



## Risk Assessment

### 5- Ecological risk assessment of soil and water loss by thermal enhanced methane recovery: Numerical study using two-phase flow simulation

By:

[Xue, Y](#) (Xue, Yi) [1]; [Liu, J](#) (Liu, Jia) [1]; [Liang, X](#) (Liang, Xin) [1]; [Wang, SH](#) (Wang, Songhe) [1]; [Ma, ZY](#) (Ma, Zongyuan) [1]

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**Abstract**

Thermal enhanced methane recovery inevitably aggravates the soil and water loss, causing severe harm to the sustainability of groundwater environment and the surrounding ecosystem. Therefore, quantitative analysis of the effect of thermal enhanced methane recovery on groundwater loss and ecological risk of coalbed methane development zone is necessary. In this study, a coupling model of gas drainage and groundwater loss is established. The model considers the dynamic gas diffusion of coal matrix, the two-phase flow of water and gas, and the influence of temperature on such flow. Based on this model, characteristics of groundwater loss of coal seam reservoir caused by enhanced methane recovery are analyzed, and the ecological risk assessment of methane recovery zone is realized. Results indicate that during heat injection, the permeability of the coal seam increases with distance from the borehole due to the competition between two-phase flow and temperature. High temperature develops the permeability, gas production, and water production of the reservoir. The change rules of water and gas productions are similar with initial increases and subsequent declines. The influence of coal gas diffusion on groundwater loss has a certain time lag. In the early stage, the dynamic attenuation of gas diffusion is not apparent. In the later stage, the supplement rate of gas from matrix to fracture decreases. The initial saturation has a significant influence on the water production rate in the early stage. A large Langmuir volume constant not only strengthens the peak value of gas drainage rate but also the gas drainage rate itself in the later declining period. Large scale coalbed methane development will face ecological risks such as water environment pollution, habitat destruction and soil degradation, which is the key aspect of ecological environment management and risk prevention.





## Risk Assessment

**Keywords**

**Author Keywords**

[Enhanced methane recovery](#)[Heat injection](#)[Groundwater loss](#)[Permeability evolution](#)[Numerical investigation](#)

**Keywords Plus:** [GAS](#)



## Risk Assessment

### 6- Global soil pollution by toxic elements: Current status and future perspectives on the risk assessment and remediation strategies-A review

**By:**

[Khan, S](#) (Khan, Shamshad) [1]; [Naushad, M](#) (Naushad, Mu) [2], [3], [4]; [Lima, EC](#) (Lima, Eder C.) [5]; [Zhang, SX](#) (Zhang, Shengxin) [1]; [Shaheen, SM](#) (Shaheen, Sabry M.) [6], [7], [8]; [Rinklebe, J](#) (Rinklebe, Joerg) [6], [9]

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Review

**Abstract**

The aim of this article is to review and present the state of the arte about the status of toxic elements (TEs) in soils and assess the potential risk using single and total complex pollution indices in a global scale. We compiled, integrated, and analyzed soil TE pollution data over almost a decade through key maps, which have not been reviewed up to date. All the in-situ and ex-situ remediation treatments have been also reviewed, illustrated, and compared, for the first time. The future perspectives have been discussed and summarized. This review demonstrates that the cornerstone maps and integrated information provide reliable geographical coordinates and inclusive information on TEs pollution, particularly in China. In-situ treatment approaches for TEs polluted soils are more cost-effective and applicable than ex-situ treatment trials. Selecting a feasible remediation strategy should to take the extent of contamination, treatment objectives, site characteristics, cost-efficiency, and public suitability into account. The summarized findings in this review may help to develop innovative and applicable methods for assessing the global soil pollution by TEs. Also, these findings may help to develop innovative, applicable, and feasibly economic methods for sustainable management of TEs contaminated soils to mitigate the environmental and human health risk.

**Keywords**

**Author Keywords**



## Risk Assessment

[Hazardous metals](#)[Pollution indices](#)[Remediation strategies](#)[Sustainable engineering](#)[Contaminated soils](#)

### **Keywords Plus**

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## Risk Assessment

### 7- Environmental and health risk assessment of potentially toxic trace elements in soils near uranium (U) mines: A global meta-analysis

By:

[Chen, L](#) (Chen, Li) [[1](#)], [[2](#)]; [Wang, JZ](#) (Wang, Jingzhe) [[3](#)], [[4](#)], [[5](#)]; [Beiyuan, J](#) (Beiyuan, Jingzi) [[6](#)]; [Guo, XT](#) (Guo, Xuetao) [[7](#)]; [Wu, H](#) (Wu, Hao) [[8](#)]; [Fang, LC](#) (Fang, Linchuan) [[1](#)], [[2](#)]

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**Abstract**

Soil pollution by potentially toxic trace elements (PTEs) near uranium (U) mines arouses a growing interest worldwide. However, nearly all studies have focused on a single site or only a few sites, which may not fully represent the soil pollution status at the global scale. In this study, data of U, Cd, Cr, Pb, Cu, Zn, As, Mn, and Ni contents in U mine-associated soils were collected and screened from published articles (2006-2021). Assessments of pollution levels, distributions, ecological, and human health risks of the nine PTEs were analysed. The results revealed that the average contents of the U, Cd, Cr, Pb, Cu, Zn, As, Mn, and Ni were 39.88-, 55.33-, 0.88-, 3.81-, 3.12-, 3.07-, 9.26-, 1.83-, and 1.17-fold greater than those in the upper continental crust, respectively. The pollution assessment showed that most of the studied soils were heavily polluted by U and Cd. Among them, the U mine-associated soils in France, Portugal, and Bulgaria exhibited significantly higher pollution levels of U and Cd when compared to other regions. The average potential ecological risk value for all PTEs was 3358.83, which indicated the presence of remarkably high risks. Among the PTEs, Cd and U contributed more to the potential ecological risk than the other elements. The health risk assessment showed that oral ingestion was the main exposure route for soil PTEs; and the hazard index (HI) values for children were higher than those for adult males and females. For adult males and females, all hazard index values for the noncarcinogenic risks were below the safe level of 1.00. For children, none of the HI values exceeded the safe level, with the exception of U (HI = 3.56) and As (HI = 1.83), but Cu presented unacceptable carcinogenic risks. This study provides a comprehensive analysis that demonstrates the urgent necessity for treating PTE pollution in U mine-associated soils worldwide. (C) 2021 Elsevier B.V. All rights reserved.



## Risk Assessment

### Keywords

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