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Research Article

Open Access Research Article PTZAID:AEST-5-145

Evaluation of life cycle in the process of production and management of PVC waste by LCA method and prediction of toxicity (TEQ) effect of dioxins using Artificial Neural Network method and nonlinear regression

Published On: August 04, 2021 | Pages: 099 - 102

Author(s): Mohammad Mahdi Shahsavar, Nasim Ghadami, Mehran Akrami, Reza Aghlmand and Mohammad Gheibi*

Today, using plastic tools and materials to meet executive and design needs is considered an integral part of industries such as the construction industry. Among these materials, PVC pipes in equipment and installations or UPVC windows could be mentioned. The missing link in the widespread use and utilization of this material is in the lack of attention to emissions f ...

Abstract View Full Article View DOI: 10.17352/aest.000045

Open Access Research Article PTZAID:AEST-5-143

Providing a HSE system for intelligent temperature control of urban equipment (electrical panels) and fire prevention based on the integration of concept models and programming of AVR microcontroller (Case study of Mashhad) as a smart city implementation

Published On: August 04, 2021 | Pages: 090 - 093

Author(s): Bita Deravian, Behzad Deravian, Seyed Mohammad Khatibi, Reza Aghlmand and Mohammad Gheibi*

Today, smart city approaches are considered as a key to solving the problems facing metropolises. However, using this approach, the costs of investment, operation, and maintenance of infrastructure in cities will be significantly reduced. In this study, a system for intelligent temperature control of urban equipment (electrical panels) and fire prevention based on a c ...

Abstract View Full Article View DOI: 10.17352/aest.000043

Open Access Research Article PTZAID:AEST-5-142

Evaluation of the effect of temperature changes on chlorine mass deterioration in the water supply network using EPANET (II) qualitative-hydraulic simulation system

Published On: July 20, 2021 | Pages: 086 - 089

Author(s): Omid Zabihi, Maryam Siamaki, Reza Aghlmand and Mohammad Gheibi*

Environmental and health organizations believe that water entering the water distribution network should always have a certain amount of free chlorine remaining (at least 0.6 mg/L according to standard 1053). The founding philosophy of this standard is based more on the possibility of re-contamination in the water network. Experience in the operation of urban water di ...

Abstract View Full Article View DOI: 10.17352/aest.000042

Open Access Research Article PTZAID:AEST-5-141

Smartening the movement path of municipal garbage trucks using genetic algorithm with emphasis on economic-environmental indicators

Published On: June 28, 2021 | Pages: 080 - 085

Author(s): Nasim Ghadami, Bita Deravian, Hossein Pouresmaeil, Reza Aghlmand and Mohammad Gheibi*

The collection is one of the most important steps in waste management, accounting for 60% of total costs. Therefore, a little improvement in collection operations can have a significant impact on total cost savings. On the other hand, the traffic of heavy vehicles collecting waste causes the air pollution spread and the passages pavement damage in case of excessive lo ...

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Assessing Energy Consumption, Optical Distributions, and Carbon Contaminations using the Design-Builder Simulation Model (Case Study: A Sports Building, Mashhad, Iran)

Published On: June 28, 2021 | Pages: 074 - 079

Author(s): Nasim Ghadami, Maryam Siamaki, Hossein Pouresmaeil, Reza Aghlmand and Mohammad Gheibi*

Today, optimization and management of energy consumption are considered as one of the main necessities of operating

various buildings. Given the decline in production sources of primary energy as well as the produced contaminations due to their consumption, attention toward such matter has doubled. One of the operational solutions to controlling energy consumption is ...

Abstract View | Full Article View | DOI: 10.17352/aest.000040

Open Access Research Article PTZAID:AEST-5-139

Evaluation of water life cycle in production and implementation of Autoclaved Aerated Concrete (AAC), Non-Autoclaved Aerated Concrete (NAAC), Cellular Light Weight Concrete (CLC) blocks and prioritization with multi-criteria decision systems: Case study o

Published On: June 28, 2021 | Pages: 067 - 073

Author(s): Mohammad Mahdi Shahsavar, Mahdi Najafzadeh, Mehran Akrami, Reza Aghlmand and Mohammad Gheibi*

Due to the development of the construction industry and the rapid growth of the construction industry, the consequences of the boundless human interventions in nature and the environment gradually became apparent. In line with these efforts, the concept of sustainable development was considered by the World Commission on Environment and Development, which means meetin ...

Abstract View | Full Article View | DOI: 10.17352/aest.000039

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Environmental impact assessment of aluminium production using the life cycle assessment tool and multi-criteria analysis

Published On: June 26, 2021 | Pages: 059 - 066

Author(s): Javad Abdollahi, Nima Emrani, Benyamin Chahkandi, Ali Montazeri, Reza Aghlmand and Mohammad Gheibi*

Air pollution is one of the most important problems of urban life. Since a large proportion of airborne pollutants originate from industry, it is important to address emission removal systems. One of the growing industries is the production of aluminum, which requires attention and planning since emits dangerous pollutants such as particulate matter, SO2, NOx, dioxins ...

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Open Access Research Article PTZAID:AEST-5-137

Presenting a conceptual model of leakage management system in urban water supply network from two preventive and operational perspectives (Case study of Tokyo and Tehran metropolises)

Published On: June 08, 2021 | Pages: 051 - 058

Author(s): Saeed Mohammadi, Mahdi Najafzadeh, Mohammad Gheibi*, Zahra Kian, Amir Takhtravan and Reza Aghlmand

The existence of leakage in the urban water supply network can be considered one of the main challenges in the country's water industry. The purpose of this study is a comparative comparison of water leakage management patterns in Tokyo and Tehran. In this study, the existing documents in the field of water leakage management in both cities were collected, classified, ...

Abstract View | Full Article View | DOI: 10.17352/aest.000037

Open Access Research Article PTZAID:AEST-5-136

Investigation of air pollution and health effects as per dose-response functions and prioritizing responsibility of pollutants based on Multi-Criteria Decision Making computations: A case study

Published On: June 08, 2021 | Pages: 045 - 050

Author(s): Mohammad Gheibi*, Benyamin chahkandi, Zahra Kian, Amir Takhtravan and Reza Aghlmand

With the growth of industrialization and urbanization in megacities, some emerging disasters occur such as air pollution mortality, increasing cancer risks, decreasing life expectancy, descending prosperity, and Human Development Indexes (HDI). In addition, with the raising population of cities, the quantity and quality of air pollutions are increased based on vehicle ...

Abstract View | Full Article View | DOI: 10.17352/aest.000036

Open Access Research Article PTZAID:AEST-5-135

Sensitivity analysis of parameters affecting suspended growth in industrial wastewater treatment plants; with emphasis on economic performance criteria

Published On: June 08, 2021 | Pages: 038 - 044

Author(s): Mohammad Gheibi*, Benyamin chahkandi, Zahra Kian, Amir Takhtravan and Reza Aghlmand

Industrial wastewater treatment is of high priority due to the presence of an extraordinary concentration of dangerous pollutants. Similar to urban wastewater treatment plants, there are plenty of options while designing industrial ones which

need various analyses and researches to choose correctly. One of the most efficient ways to solve this problem is to implement ...

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Open Access Research Article PTZAID:AEST-5-134

Qualitative Evaluation of Surface Water Resources Using Iran Water Quality Index (IRWQSC) and National Sanitation Foundation Water Quality Index (Case Study: Kardeh Dam, Mashhad, Iran)

Published On: May 05, 2021 | Pages: 030 - 037

Author(s): Mohammad Mahdi Shahsavar, Mahdi Najafzadeh, Mehran Akrami, Zahra Kian and Mohammad Gheibi*

The quality of water resources is one of the main subjects in ensuring public health. Therefore, monitoring water resources, especially surface waters, is one of the leading water operational management systems' requirements. Since the quality of surface waters is affected by natural factors and pollutants from human activity, monitoring water resources' quality leads ...

Abstract View Full Article View DOI: 10.17352/aest.000034

Open Access Research Article PTZAID:AEST-5-130

Presenting a novel approach for designing chlorine contact reactors by combination of genetic algorithm with nonlinear condition functions, simulated annealing algorithm, pattern search algorithm and experimental efforts

Published On: April 07, 2021 | Pages: 012 - 017

Author(s): Mohammad Gheibi*, Hossein Pouresmaeil, Mehran Akrami, Zahra Kian, Amir Takhtravan and Maryam Mohammadi

Nowadays, water supplies face critical conditions in terms of quality and quantity. Furthermore, growth in population along with their needs require an increasing level of water-related resources. Consequently, the potential application of purified wastewater supplies can be considered in agriculture, industry, and irrigation of green spaces. Hence the necessity of di ...

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Open Access Research Article PTZAID:AEST-5-129

Climatology and vulnerability to climate change in the “Altos de Jalisco” region, Mexico

Published On: March 16, 2021 | Pages: 001 - 011

Author(s): Ramírez-Sánchez HU*, Fajardo-Montiel AL and García Guadalupe ME

The State of Jalisco has high levels of vulnerability to climate change, so it is necessary to identify the areas that present the highest risk. At present, it is important to have information to design and implement measures that reduce the effects of climate change on water resources. In Jalisco, the “Altos de Jalisco” and North regions are very vulnerable as they s ...

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Short Communication

Open Access Short Communication PTZAID:AEST-5-144

Application of photovoltaic technology in the use of solar energy

Published On: August 04, 2021 | Pages: 094 - 098

Author(s): Andjela B Stanojevic*

Solar heating and cooling, concentrating solar power and photovoltaic are three solar technologies which harness solar energy. Photovoltaic Technology (PV) is directly converting sunlight into electricity and it is very convenient to use. In addition, these devices are simple in design and easy to handle. The efficiency of energy production this way is great. In order ...

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Open Access Short Communication PTZAID:AEST-5-133

Water resources of Pakistan: An analysis of sources and situation

Published On: April 29, 2021 | Pages: 027 - 029

Author(s): Mushtaque Ahmed Pathan* and Maryam Maira Pathan

Water assets are turning into an incredible issue everywhere in the world, there are numerous reasons the natural issues are one of the significant causes. Pakistan isn't liberated from a similar danger of diminishing water assets on the surface and subsurface. The regular purposes behind precipitation like a downpour and icy mass dissolving are two primary sources th ...

Abstract View | Full Article View | DOI: 10.17352/aest.000033

Open Access Short Communication PTZAID:AEST-5-132

Air pollution emission from the copper smelter Complex Bor in Serbia

Published On: April 26, 2021 | Pages: 023 - 026

Author(s): Andjela B Stanojevic*

Ever since the industrial revolution, air got significantly polluted by the industry. Air pollution is even more concentrated in cities that have an industrial zone. Especially in these zones, the presence of Sulfur-dioxide (SO2) and suspended Particles (PM) in the air is very high. Prolonged exposure to SO2 and PM can cause cancer, cardiovascular and respiratory diso ...

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Open Access Short Communication PTZAID:AEST-5-131

Conservation agriculture and its principles

Published On: April 08, 2021 | Pages: 017 - 022

Author(s): Andjela B Stanojevic*

Conventional agriculture is the greatest enemy of healthy soil; it wasn't designed for the betterment of the soil, but rather for the rapid economic growth. If we want to improve soil quality and with that our life quality, we should turn our field of interest to the application of so-called conservation agriculture, which belongs to the principles of sustainable natu ...

Abstract View | Full Article View | DOI: 10.17352/aest.000031