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Integrating Medicos...Incubating Research !!!!

3rd GoGreen Summit

Day1 - March 23rd 2018

8.30am -9.00 am - Registration

9.00 am -9.15 am - Inaugural session

9.15 am -9.30 am - Group photo

Keynote Forum

9.30 am -10.00 am - Dr. Radzuan Junin

Universiti Teknologi Malaysia, Malaysia

10.00 am - 10.30 am - **Coffee Break**

Session Introduction

10.30 am – 10.50 am --- **Oral Presentation by *Dr.Norhafizah Abdullah***
Topic :- Environmental factors for PAH bioremediation of using indigenous microbial culture isolated from contaminated soil

10.50 am - 11.10 am --- **Oral Presentation by *Aweng Eh Rak***
Topic :- Heavy Metals Concentration in Etak Tissue at Different Processing Stages

11.10 am - 11.30 am --- **Oral Presentation by *Dharmender Kumar***
Topic :- Particulate Matter Effects on Photosynthetic Pigments of Roadside Trees

11.30 am - 11.50 am --- **Oral Presentation by *Mohamed A. Barakat***
Topic :- Modified Nanoparticles as Visible Light Photocatalysts for Wastewater Treatment

11.50 am - 12.10 pm --- **Oral Presentation by *Dr. Saif AlGhais***
Topic :- The Impact of Feminine Groups on the Protection of the Environment

12.10 pm - 12.30 pm	---	**Oral Presentation by** ***Sanak Ray*** **Topic :-** Removal of Ammonia and COD from Wastewater using Response Surface Methodology
12.30 pm - 01.30 pm	---	**Lunch Break**
01.30 pm - 01.50 pm	---	**Oral Presentation by** ***W.A. Wan Ab Karim Ghani*** **Topic :-** Breakthrough Studies of Co3O4 Supported Activated Carbon Monolith for Simultaneous SO2/NOx Removal from Flue Gas
01.50 pm - 02.10 pm	---	**Oral Presentation by** ***Jessie R. Sabijon*** **Topic: -** Growth and Yield of Sweet Corn (Zea mays L.) as Influenced by Guano Char in Degraded Upland Soils
02.10 pm -02.30 pm	---	**Oral Presentation by** ***Manvendra Verma*** **Topic :-** Geopolymer concrete a way of sustainable construction
02.30 pm- 02.50 pm	---	**Poster Presentation by** ***E. Kupčinskienė*** **Topic :-** Genetic diversity of Lithuanian populations of Impatiens parviflora DC. Evaluated according to several type DNA markers
02.50 pm -03.10 pm	---	**Poster Presentation by** ***Eugenija Kupcinskiene*** **Topic: -** Possible causes of high concentration nitrogen among riparian plant species
03.10 pm - 03.30 pm	---	**Oral Presentation by** ***Sushant Kumar*** **Topic: -** A case study: Sustainable development of groundwater in Begamganj block of Bina River Basin, Madhya Pradesh, India
03.30 pm - 03.50 pm	---	**Oral Presentation by** ***Manisha Verma*** **Topic: -** Degradation of Pharmaceutical Compounds using Advanced Oxidation Processes
03.30 pm - 03.50 pm	---	**Oral Presentation by** ***Sakshi*** **Topic: -** Polyaromatic Hydrocarbons: Soil Pollution and Bioremediation

03.50 pm- 04.10 pm	---	**Oral Presentation by** ***Vesna Lavtizar*** **Topic :-** **Sea urchins in ecotoxicity testing**
04.10 pm -04.30 pm	---	**Coffee break**
04.30 pm - 04.50 pm	---	**Video Presentation by** ***Jaime Senabre*** **Topic :-** **Wildland fires, climate change and landscape perception in a region of eastern Spain.**
04.50 pm - 05.00 pm	---	**Feed Back**

DAY 1 END

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3rd GoGreen Summit

Day2 - March 24th 2018

Keynote Forum

9.30 am -10.00 am - Awan Setiawan
Politeknik Negeri Malang, Indonesia

10.00 am - 10.30 am - **Coffee Break**

Session Introduction

10.30 am – 10.50 am --- **Oral Presentation by** ***Marjorie Lara Baynosa***
Topic :- Zinc ferrite-based composites for photocatalytic degradation of organic pollutants in water

10.50 am - 11.10 am --- **Oral Presentation by** ***Vandana Shan***
Topic :- Preliminary assessment of Water quality of Bhindawas wetland for irrigation, Haryana, India

11.10 am - 11.30 am --- **Oral Presentation by** ***Radzuan Junin***
Topic :- Geological CO_2 Storage Potential in Malay Basin, Offshore Malaysia

11.30 am - 11.50 am --- **Oral Presentation by** ***Shreya Gupta***
Topic :- Management of Sewage in NCT of Delhi, India

11.50 am - 12.10 pm --- **Oral Presentation by** ***A. K. Haritash***
Topic :- Wastewater stabilization by Canna-based constructed wetland

12.10 pm - 12.30 pm	---	**Oral Presentation by** ***Bambang Sugiyono Agus Purwono*** **Topic :-** Waste Management for Paper Mills Small Industry Water Treatment Plants
12.30 pm - 01.30 pm	---	**Lunch Break**
01.30 pm - 01.50 pm	---	**Oral Presentation by** ***Masroni*** **Topic :-** Strategy of Simulation of Pelton Micro Hydro Power Plant
01.50 pm - 02.10 pm	---	**Oral Presentation by** ***Allan Paolo S. Herrera*** **Topic: -** Solid Waste Trap for an Open-Typed Drainage System in the Philippines Using Permeable Filtration Concrete.
02.10 pm -02.30 pm	---	**Oral Presentation by** ***Pranab Pal*** **Topic :-** A Review of Environmental Pollution on Health and Biodiversity Loss : Adaptation and Mitigation Measures
02.30 pm- 02.50 pm	---	**Poster Presentation by** ***B. R. Bamniya*** **Topic :-** Energy Recovery during Co-Processing of Solid Wastes In Cement Rotary Kiln
02.50 pm -03.10 pm	---	**Poster Presentation by** ***Jasvirinder Singh*** **Topic: -** Biotransformation of Cr(VI) by the cyanobacterium Synechocystis sp. PUPCCC 62
03.10 pm - 03.30 pm	---	**Oral Presentation by** ***Prof. Peter Novak*** **Topic: -** Biomass Role in Sustainable Energy System
03.30 pm - 03.50 pm	---	Certificate Distribution &Feedback

DAY 2 END

Keynote speakers

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3rd GoGreen Summit

23rd-24th, March 2018 at Manila, Philippines

Ultrasound Assisted Ultrafiltration Membrane Process for Oil Field Produced Water Treatment

Dr. Radzuan Junin

Institute for Oil and Gas (IFOG), Faculty of Chemical and Energy Engineering,Universiti Teknologi Malaysia, 81310 Johor Baru, Johor, Malaysia
Department of Petroleum Engineering, Faculty of Chemical and Energy Engineering, Universiti Teknologi Malaysia, 81310 Johor Baru, Johor, Malaysia

Asma Yahya

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Abstract

Treatment and management of oil field produced water is a vital issue in the emulsified oil and gas industry. The need for efficient disposal management becomes a vital interest for both companies and government due to its effect to the environment as this emulsified produced water may be discharged into the environment. In this study, a novel idea of having in-situ cleaning using ultrasound in cross-flow UF membrane is proposed as a green and cost-effective approach to enhance the permeate flux. Hollow fibre hydrophilic polyvinylidene fluoride (PVDF) membrane was immersed in ultrasonic water bath under transmembrane pressure of 5 bar and ambient temperature (27°C). The ultrasonic with 40 kHz irradiated was used with power ranges of 150 - 450 watts. Both results (with and without ultrasound) showed high oil rejection, but the ultrasound assisted significant improvements to the ultrafitration process as permeation flux reached steady state flow. Result showed remarkable recovery of water and oil rejection of 90% and 76% for ultrasound and without-ultrasound treatment respectively. Thus, it proofs that ultrasound assisted membrane cleaning is able to improve the effectiveness of ultrafiltration towards the removal of emulsified oil in oil field produced water.

Biography

Dr. Radzuan Junin is a Professor in the Department of Petroleum Engineering, Faculty of Chemical & Energy Engineering, Universiti Teknologi Malaysia (UTM). He has authored or co-authored more than 100 technical papers. His research interests are in rocks-fluid interactions with applications to oil and gas recovery (EOR), CO_2 sequestration and contaminant transport and waste treatment. He performs experimental and theoretical research into many aspects of Petroleum Geoscience and Engineering; including pore-scale modeling of displacement processes, ultrasonic applications in oil and gas industry, and surfactant adsorption to reservoir rock minerals.

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3rd GoGreen Summit
23rd-24th, March 2018 at Manila, Philippines

Strategy of Simulation of Pelton Micro Hydro Power Plants

Awan Setiawan
Politeknik Negeri Malang, Indonesia
Bambang Sugiyono Agus Purwono
Politeknik Negeri Malang, Indonesia
Masroni
Politeknik Negeri Malang, Indonesia
Masrur Mahfudi
Politeknik Negeri Malang, Indonesia
Imam Agus Fatoni
Politeknik Negeri Malang, Indonesia

Abstract

East Java (Indonesia) is many of the river and the production electic energy has not been explored optimally.The main problem is the water flow rate potential in Indonesia has not been used yet and the demand of the electric energy is increasing faster. The objective of this research is to analyze the alternative strategy using Micro Hydro Power Plant/MHPP using turbine blades NACA 24012 (simulated). MHPP used 4 and 8 unit turbine blades and the variation water flow rate is 5.0 till 26.0 [l/min] – simulated. The research variables are variation of water flow rate and variation of turbine blades, and the electric power is generated by MHPP using Pelton. This research applies quantitative method – experimental design using one way classification. The finding of this research reveals is the increasing of water flow rate and the number turbine blades, the higher power generated. The null hypothesis is rejected, it is means that there is a difference between variation of water flow rate and variation of turbine blades to the electric generated power by MHPP.

Key Words: MHPP, Simulation, Energy, water flow rate, strategic, turbine blades.

Biography

awan setiawan born in yogyakarta - indonesia, oktober 9, 1959. lecturer in electrical engineering department – state polytechnics of malang. strata-1 in electrical engineering – faculty of technology - state university of yogyakarta, yogyakarta (1982). master degree in science management – university of gajahyana – malang (2011). as a director state polytechnics of malang since 2017.

as a speaker about entrepreneurship, electrical engineering, management, energy and leadership.

research focus on electrical engineering, management, energy and leadership.

member of asosiasi dosen indonesia (adi).

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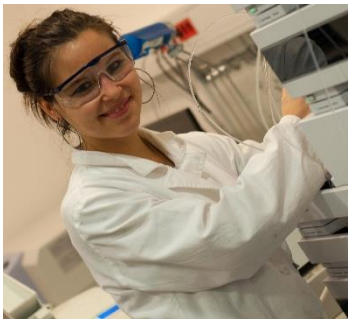
ABSTRACTS



Sea urchins in ecotoxicity testing

Vesna Lavtizar
Laboratory of Maritime Environmental Management, Research center for Inland Seas, Kobe University, Japan

Hideo Okamura
Laboratory of Maritime Environmental Management, Research center for Inland Seas, Kobe University, Japan

Abstract

Sea urchins play a key role in marine ecosystems. In shallow seas they are major grazers as well as an important pray to several other marine organisms. Several sea urchin species are also economically valuable. However, there are numerous research studies indicating that sea urchins may be very sensitive to marine pollutants, such are antifouling biocides, heavy metals, pharmaceutical drugs, surfactants, nanoparticles and polluted effluents and sediments. This is especially true for the sea urchin's early developmental stages.

The research on effects of toxicants to sea urchin embryogenesis has a fairly long history and ecotoxicity guidelines have been developed. Different test procedures and endpoints exist. In the shortest test, male gametes are exposed to a pollutant for 1-h, after which the female gametes are introduced. After 20 minutes of incubation, the fertilization success is recorded. In the most common sea urchin embryo test, the fertilized eggs are introduced to a chemical, and the embryo is let to develop to pluteus larva (48-h test). The endpoints of interest in this test are the effect of the pollutants on larval growth and developmental abnormalities.

In our study, sea urchin male gametes and fertilized eggs were exposed to a newly developed antifouling biocide, tralopyril. The biocide highly affected the fertilization rate, larval growth and larval development, implying a high toxicity to the sea urchin in its early developmental stages.

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Biography

Vesna Lavtizar is a JSPS invited researcher, currently focusing on ecological risks of antifouling biocides at Kobe University, Japan. She obtained a PhD at University of Nova Gorica, Slovenia, however part of her work she performed at two universities in Amsterdam, the Netherlands and at the University of Ljubljana, Slovenia. Her main topics of interest are newly emerged antifouling agents, single and mixture toxicity studies as well as environmental fate studies of antifoulants in water compartments

UNIVERSITI MALAYSIA KELANTAN

Heavy Metals Concentration in Etak Tissue at Different Processing Stages

Aweng Eh Rak
Associate Professor, Universiti Malaysia Kelantan (UMK)
Faizuan Abdullah
Universiti Malaysia Kelantan (UMK)
Dee Koh Han
Universiti Malaysia Kelantan (UMK)
Idanne Adilla Ibrahim
Universiti Malaysia Kelantan (UMK)
Nurul Inani Rozaki
Universiti Malaysia Kelantan (UMK)
Suganthi Appalasamy
Universiti Malaysia Kelantan (UMK)
Rozidaini Mohd. Ghazi
Universiti Malaysia Kelantan (UMK)
Nor Hakimin Abdullah
Universiti Malaysia Kelantan (UMK)

Abstract

Corbicula fluminea also known as Asian clam or “etak” in Malaysia is a freshwater bivalve mollusc. Etak is categorized as filter feeder organism which accumulate heavy metals from polluted river or water stream in its tissue. This clam is also widely consumed as traditional snack by the locals in Kelantan, Malaysia. However, lately there are numerous reports in local newspapers that claim etak to cause health effects due to eating contaminated etak. Hence, the aim of this study is to determine the

concentration of heavy metals in fresh, smoked and exposed "etak" sold at the stall as a baseline study in order to develop a method for removing the heavy metals content in its tissues. This study involves etak sample collection in rivers around Kelantan, Malaysia, tissue sample preparations via acid digestion and determination of heavy metal by using Perkin Elmer PinAAcle 900F Atomic Absorption Spectrometer. The results showed the heavy metals (Cr, Zn, Mn and Cu) concentrations (µg/g) in all of the etak tissue were at different level for fresh (Cr: 1.02±0.351 ppm, Zn: 74.57±2.757 ppm Mn: 40.22±9.956 ppm, and Cu: 15.27±1.414 ppm), smoked (Cr: 0.42±0.016 ppm, Zn: 54.62±17.826 ppm Mn: 50.13±2.312 ppm , and Cu: 20.94±8.811 ppm) and exposed (Cr: 0.525±0.078ppm, Zn: 63.07±8.436 ppm Mn: 50.41±6.916 ppm , and Cu: 12.80±0.403 ppm) samples. The results showed Zn and Cu concentrations (µg/g) in all of the etak samples were safe and below the permissible limits set by Malaysian Food Regulations 1985 (Cr: 0.5 ppm, Zn: 100.0 ppm Mn: 10.0 ppm , and Cu: 30.0 ppm). However, the concentration of Cr and Mn exceeding the permissible limits. This study successfully determine the baseline concentration of the heavy metals content in etak and their possible source from the environment, thus could able to enhance the quality of smoked etak for the society and improves local's economy.

Key words:

Corbicula fluminea (Etak), heavy metals, Kelantan, traditional snack

Biography

Dr. Aweng a/l Eh Rak is a lecturer at the faculty of Earth Science, Universiti Malaysia Kelantan (UMK), Jeli Campus, Malaysia. He holds the Ph.D of Civil Engineering in River Management. As of to date he has published 5 books, 4 chapters in Book, 35 papers in national and international journal and 27 conference proceedings. Not only that, he was also invited as a reviewer for more than 30 journal publishers nationally and internationally. During his academic journey, he has secured a number of research grants to undertake research in his field, he has also invited as a chairperson in several national and international conferences. At the same time he has also actively participating in national and international innovation exhibitions and won a number of medals ranging from "Best Award", Gold, Silver and Bronze medal. Dr. Aweng a/l Eh Rak is not only active in academic and research, but also administrations. Due to his leadership skills he was appointed as a head of the Department, Deputy Dean for Academic, Students affairs and Internationalization and currently as a Dean of Faculty of Earth Science, Universiti Malaysia Kelantan, Malaysia.

PARTICULATE MATTER EFFECTS ON PHOTOSYNTHETIC PIGMENTS OF ROADSIDE TREES

Dharmender Kumar
Assistant Director, Commission for Scientific and Technical Terminology,MHRD,New Delhi.
B R Bamniya
Department of Environmental Sciences, Mohanlal Sukhadia University, Udaipur, Rajasthan.
Neelima Nair
Department of Environmental Sciences, Mohanlal Sukhadia University, Udaipur, Rajasthan.
Dhavan Saini
Department of Environmental Sciences, Mohanlal Sukhadia University, Udaipur, Rajasthan.

Abstract

Urban Air Quality is a vital natural resource which is endangered in most of the cities all over the world. The paper analyses the ambient particulate matter concentration in the Udaipur city which are one of the most damaging air pollutants. With a number of native and exotic species available, choosing the correct one for greenbelt plantation will help not only in reducing pollution but also in maintaining the biodiversity of the region. For the present study four commonly found economically important tree species were selected that are Psidium guajava L., Guazuma ulmifolia Lam., Albizia lebbeck L., Bombax ceiba L. The Dust accumulation capacity and the effect of particulate pollution on the chlorophyll contents in the leaves of selected plant species were studied. All the selected species were found to be good dust accumulator. Bombax ceiba L. due to its complex and coriaceous leaves was found to be accumulating highest dust followed by Guazuma ulmifolia Lam. and Albizzia Lebbeck L. Among the species selected for the present study Albizia lebbeck L. was found to be excellent for urban plantation because of high chlorophyll and carotenoid content in the polluted sites followed by Psidium guajava L.

Key words:

Dust capture, Green belt plantation, Photosynthetic pigments, Urban air quality, Vehicular pollution.

Biography

Dr. Dharmender Kumar, Assistant Director in the Commission for Scientific and Technical Terminology, Ministry of Human Resource Development (Deptt. of Higher Education), New Delhi was born on January 03, 1970.

Dr. Kumar completed his M.Sc. (Botany) in 1992, M.Phil (Botany) in 1993 and Ph. D. (2007) from Chaudhary Charan Singh University (Formerly Meerut University), Meerut, Uttar Pradesh, India.

Dr. Kumar has published research articles and translated popular Science books for National Book Trust of India, New Delhi . He has participated in many National and International Conferences. His research work lies in the area of Ecophsiological Study on air pollution. Presently , Dr Kumar is involved in Evolution and propagation of Hindi terminology in the field of Botany and Environmental Science by preparing subject wise Glossaries, Definitional Dictionaries. He has been continuously engaged to organize the terminology seminar for the teachers, scientists, writers associated with Colleges , Universities and Scientific Institutions. Dr Kumar has also been associated with various National bodies including National Council of Educational Research and Training (NCERT), All India Institute of Medical Sciences (AIIMS), Indira Gandhi National Open University (IGNOU), Kendriya Hindi Sansthan (KHS), New Delhi and many other agencies.

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Environmental factors for PAH bioremediation of using indigenous microbial culture isolated from contaminated soil

Norhafizah Abdullah
Department of Chemical and Environmental Engineering, Universiti Putra Malaysia, Malaysia
Baba Shehu Umar Ibn Abubakar
Department of Civil and Water Resources Engineering, Maiduguri University, Nigeria

Abstract

Bioremediation approach to treat PAH-contaminated soil is presented here. Pyrene, a four-benzene-ring polycyclic aromatic hydrocarbon (PAHs) was used as a model contaminant and its degradation was performed using a mixed culture of pyrene degrading bacteria. These pyrene degraders were isolated from aging hydrocarbon-polluted soil sample and identified biochemically as Bacillus cereus and Enterobacter aerogenes species. Results showed that biomass growth and degradation rate were greatly affected by pyrene-soil ratio, soil-water ratio and the type of contaminated soil itself. Up to 90% of pyrene (with initial concentration of 1.5ppm) was successfully degraded within six days of incubation in a soil-slurry aqueous system. Assessment of other environmental factors showed that the mixed culture grows well between pH of 5.0-7.0 under mesophilic condition of 20-30 oC. These factors should be carefully taken into account as they may give implication in the design of bioremediation projects in-situ and ex-situ.

Biography

Norhafizah Abdullah is an associate professor at the Department of Chemical and Environmental Engineering, Universiti Putra Malaysia (UPM). She graduated in Chemical Engineering (Cambridge University, 2004). Currently, she is the coordinator for Master programme in Environmental Technology Management and Quality Manager for ISO/IEC17025 accreditation laboratories at the Faculty of Engineering, UPM Malaysia. She has more than 15 years experience in academia and very active in teaching, research and technical consultation in the area of biochemical and environmental engineering. Her research topics include the use of variety of microbial cultures for different application such as in the synthesis of high value products, environmental engineering and biomaterials.

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Modified Nanoparticles as Visible Light Photocatalysts for Wastewater Treatment

Mohamed A. Barakat

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Central Metallurgical R & D Institute, Helwan 11421, Cairo, Egypt

Abstract

Silver (Ag) and zinc oxide (ZnO) nanoparticles were simultaneously deposited on a glass substrate using the radio frequency (RF) sputtering technique at different substrate temperatures. Detailed characterization of the co-sputtered Ag/ZnO thin films were performed by X-ray diffraction (XRD), field emission scanning electron microscopy (FESEM) and X-ray photoelectron spectroscopy (XPS). The as synthesized thin films were tested with UV-Vis diffuse reflectance spectroscopy to evaluate their optical properties. These nanoparticles have average particle size of 20 nm. The optical band gap value had been calculated from UV transmission spectra of Ag/ZnO thin films deposited at various substrate temperatures. This value was observed to be in the visible light range (i.e. 2.7-3.1 eV), which is much smaller than that of pure ZnO (3.37eV). The photocatalytic activity of the produced thin films was evaluated through visible light photo degradation of 2-chlorophenol (2-CP) which, has been used as a pollutant model in water. The synthesized thin films showed enhanced visible light photocatalytic efficiency towards 2-CP degradation at elevated substrate temperature and retained its catalytic efficiency with only 8% loss in efficiency after four reuse cycles. Kinetic parameters involved in the degradation process were investigated by applying pseudo-second-order kinetic model.

Biography

Mohamed A. Barakat is a Prof. of Environmental Sciences, Faculty of Meteorology and Environment, King Abdulaziz University (KAU),Saudi Arabia. Prof. Barakat is a highly qualified in the field of Industrial Waste Management and Pollution Control, besides Catalysis and Nanotechnology as evidenced by his academic achievements and the industrial projects he worked on. Experience includes academic research and teaching works in Egypt, Saudi Arabia, Germany, and the United States, as well as initiating and leading industrial research projects in Egypt, and jointly with the United States of America.

The Impact of Feminine Groups on the Protection of the Environment

Dr. Saif AlGhais

Environment Protection and Development Authority, Ras Al Khaimah, United Arab Emirates.

Abstract

Protecting the environment is to insure sustainable and equitable use of resources without degrading the ecosystems components and to guard health and safety of mankind and other species. In this initiative, the group aims to educate and enhance community knowledge in environmental protection via monitoring the indoor air qualities such as (CO2, PM 2.5, PM10, O2, VOC …etc.) in residential area and commercial establishment in order to enhance local lifestyle. Since we live in a time where wildlife and coastal ecosystem are in danger, the FM group voluntarily conducts several visits to the mangrove habitats, turtle beaches and fish landing sites to promote the engagement of community and to ensure the implementation of fisheries regulation in the fish market. A network of hand-in-hand 126 volunteers from 9 nationalities representing 18 establishments in addition to the house holed females. They managed to execute 86 different environmental tasks to protect our ecosystems and its components in a period of two months which indicate that we need to go green for our planet earth.

Biography

Saif Al Ghais, Ph. D. in marine biologist dedicated to the cause of environmental conservation and sustainable management of natural resources in the Arabian Gulf. Currently, Dr. Al Ghais is the Executive Director of the Environment Protection & Development Authority in Ras Al Khaimah (EPDA-RAK). In addition, he is an Adjunct Professor at Western Washington University, U.S.A. Earlier he had been working in the UAE University as an Associate Professor in the Department of Biology and Head of the Marine Environment Research Section. He has also served as the Secretary General of the Environmental Research and Wildlife Development Agency (ERWDA) of Abu Dhabi from 1996 to 2001. Dr. Al Ghais received B.Sc. in Biological Science from Seattle Pacific University, U.S.A. and Ph.D. in Marine Biology from the University of Liverpool, U.K. He has published over forty research papers in peer- reviewed journals and participated in over 50 national and international symposiums/conferences. He has the honor of being Fulbright scholar and visiting scientist/faculty at several academic institutions around the world. He has been invited by the National Marine Fisheries

Service, Southwest Fisheries Center Honolulu Laboratory and Battelle Pacific Northwest Laboratory at Sequim, Washington to undertake collaborative research programs in marine sciences. He is well known for his contribution to some pioneer projects in the UAE such as characterization and compilation of fish species inhabiting the UAE waters, the rehabilitation and conservation of mangrove ecosystem, the conservation of sea turtles and Dugong and the impact assessment of environmental pollution.

Removal of Ammonia and COD from Wastewater using Response Surface Methodology

Sanak Ray

Department of Environmental Engineering, Delhi Technological University, Bawana Road, Shahbad Daulatpur, Delhi 110042, India

Abstract

Optimization studies using Response surface methodology (RSM) were carried out for different parameters like N-NH_3, COD and time, to optimize overall method for maximum removal of N-NH_3 and COD from synthetic waste water using heterotrophic microbes, and simultaneously minimizing the N-N_2O emission. Ammonium hydroxide and glucose were used as nitrogen and carbon source. In this experiment N-NH_3 and organic nutrient concentrations were varied keeping the biomass (Total volatile suspended solids- TVSS) concentration invariable. The pH during HBC process showed a decreasing trend may be due to consumption of alkalinity. Analyses of Variance (ANOVA) were carried out for quadratic model and were observed to be highly significant. The model was verified through experiments and tested statistically. Under optimized conditions (N-NH_3- 210 mg/L, COD- 2.90 g/L, time-38 Hrs) N-NH_3 and COD removal efficiency were observed to be 82.72% and 84.78% respectively. N-N2O emissions was minimized to 2.96 µg. The total desirability factor obtained was 0.9.

Biography

Dr. Sanak Ray is a National Post-Doctoral Fellow (SERB, Govt. of India) in the Department of Environmental Engineering, Delhi Technological University in Delhi. Prior to this he worked as a Post-Doctoral Fellow (Newton-Bhabha Fellowship of British Council, UK and DST, India) at University of Salford, UK on Constructed Wetlands treating municipal wastewater. He has 2 years of teaching experience, and has around 7 years of research experience. His research expertises were wastewater treatment using Constructed Wetlands and microbes. He has around 14 publications in the form of peer reviewed research papers, conference proceedings, and a book.

ISBN: 978-81-932966-1-5

Breakthrough Studies of Co3O4 Supported Activated Carbon Monolith for Simultaneous SO2/NOx Removal from Flue Gas

W.A. Wan Ab Karim Ghani

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S. Kiman

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R. Umer

Department of Chemical & Environmental Engineering, Universiti Putra Malaysia, 43400 UPM, Serdang, Selangor, Malaysia

Abstract

This work investigates the deposition precipitation, pore volume impregnation and hydrothermal methods in the synthesis of activated carbon monolith with metal oxide (Co_3O_4). The catalyst activity was carried out for the simultaneous SO_2/NO_x removal from flue gas generated by burning coal to simulate the real life event occurring in power plant and other industries. The performance of the adsorbents in terms of synthetic method was found to be in the following order: HM-Co_3O_4/adsorbent>IM-Co_3O_4/adsorbent >DP-Co3O4/adsorbent. The Co_3O_4/adsorbent has a high affinity to NO_x adsorption and this influence is associated with the physical and chemical properties of the adsorbent and the operation conditions which were expressed through the plot of the breakthrough curve. The adsorption capacity, breakthrough and saturation times for SO^2 were found to be 123.1 mg/g, 86 min and 126 min while 130.2 mg/g, 124 min and 160 min were obtained for NOx with respect to the best performed adsorbent. FTIR data provides the confirmation of $SO^4{}_2$- and NO_3- ions accumulation on the adsorbent in the ranges of 700-450 cm−1. Langmuir adsorption model, which is based on constant adsorption energy independence of surface coverage, fitted the experimental results.

ISBN: 978-81-932966-1-5

Keywords:

activated carbon monolith; breakthrough curves; sulfur dioxide and nitric oxide; synthesis

Biography

Dr. Wan Azlina Wan Ab karim Ghani is currently the associate professor at Department of Chemical and Environmental specializes on biomass conversion into bio-energy, bio-fuels and bio-materials for green and sustainable environment with more than 10 years experience. She leads many research projects related to biomass fundamentals and conversion to renewable energy and has completed few consultancy projects. She has published vastly in reputable journals, presented papers in various conferences and a recipient of several awards including L'oreal Fellowship for Women in Science (FWIS). In terms of publications, she has more than 20 referred journals and more than 30 publications in proceedings as well as a chapter in a book.

Possible causes of high concentration nitrogen among riparian plant species

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Abstract

Nitrogen deposition data together with inland water parameters provide message that nitrogen load is big enough to cause marked changes of vegetation in Baltic States. There is much concern about eutrophication of the rivers, although information about riparian plant species is still poor. Various macrophyte strategies (abundance, architecture) might be developed. Plant productivity firstly depends on processes ongoing in the leaves. Data about plant leaf saturation with nitrogen remains poor. Usually studies refer on Ellenberg indicatory values or other indirect parametrs. Present study aimed

at comparison of nitrogen concentration among populations of riparian plant species of Lithuania (project sponsored by Lithuania Research Cuncil; SIT-02/2015). Around 250 populations were sampled along main river basins in Lithuania: Nemunas, Venta, Lielupė, Seafront. Median values (N % d. m.) of nitrogen concentration for the species were as followed: Echinocystis lobata – 4,2; Nuphar lutea (L.) Sm. – 4,1; Phragmites australis – 4,0; Phalaris arundinacea – 3.6; Bidens frondosa – 3.6; Stuckenia pectinata – 3.1; Lythrum salicaria – 3,0. Species nitrogen data was related to land cover types of neighbouring areas, empoying 2-level hierarchcial Corine classification system. Among the tested plants the highest concentration was detected for invasive in Lithuania species Echinocystis lobata., at the same time, among the tested populations the highest concentrations of nitrogen were characteristic for populations growing near Curonian Spit. The highest amounts of nitrogen were determined for the most spread riparian species of Lithuania. It could be concluded that present level of nitrogen amounts, entering riparian ecosystems is big enough to cause spread of nitrophilous species.

Biography

Present affiliation: Professor at Vytautas Magnus University of Kaunas, Lithuania. MSc. eq. studies in Biology at Vilnius University, Lithuania. Doctoral studies at Moscow Lomonosov University, Russia (Effect of Plant Growth Regulators on Enzymatic Methylation of Higher Plants). Topic of Habitual doctor degree (Latent Injuries of Scots pine and Other Plants Under Influence of Local Pollution). Present Lecture Courses: Plant Ecophysiology; Morphology and Systematics of Embriophytes; Plant Ecology; Biogeography; Algology and Mycology; General Biology. Author of over 200 publications. Research interests: molecular genetics, population biology; plant invasions, riparian vegetation, pollution, phytoindication, plant physiology, biochemistry.

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Genetic diversity of Lithuanian populations of Impatiens parviflora DC. evaluated according to several type DNA markers

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Abstract

Small balsam (Impatiens parviflora) is one of the most invasive species in Europe, which has been introduced to this continent from Central Asia and continues to spread rapidly. In Northern Europe, the invasion of I. parviflora started later than in the rest of Europe. Within recent decades I. parviflora became one of the most aggressive alien plant species of Lithuania and it is widely spread in the other Baltic States. The objective of our study was to estimate molecular diversity Lithuanian populations of I. parviflora using set of dominant and co-dominant DNA markers (the work was sponsored by Lithuania Research Council). To cover all the territory of Lithuania, 21 population of I. parviflora has been sampled. In each site, up to 16 individuals of I. parviflora individuals were sampled and examined by capillary electrophoresis (by ABI 3130 genetic analyser), polyacrylamide gel electrophoresis and agarose gel electrophoresis. In total, over 300 individuals were studied. Eight pairs of amplified fragment length polymorphism primers, 6 pairs of simple sequence repeat (SSR) primers, 8 randomly amplified polymorphic DNA primers and 4 inter simple sequence repeat (ISSR) primers

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were used. The least informative appeared to be SSR loci. Principal coordinate analyses did not group populations according to the geographic location. Mantel test outcomes were in agreement to it. Bayessian analyses of the data generated by different DNA markers, demonstrated that invasion of I. parviflora in Lithuania might be consequence of multiple introductions.

Keywords:

Balsaminaceae, Small balsam, alien species

Biography

Present affiliation: Professor at Vytautas Magnus University of Kaunas, Lithuania. MSc. eq. studies in Biology at Vilnius University, Lithuania. Doctoral studies at Moscow Lomonosov University, Russia (Effect of Plant Growth Regulators on Enzymatic Methylation of Higher Plants). Topic of Habitual doctor degree (Latent Injuries of Scots pine and Other Plants Under Influence of Local Pollution). Present Lecture Courses: Plant Ecophysiology; Morphology and Systematics of Embriophytes; Plant Ecology; Biogeography; Algology and Mycology; General Biology. Author of over 200 publications. Research interests: molecular genetics, population biology; plant invasions, riparian vegetation, pollution, phytoindication, plant physiology, biochemistry.

Wildland fires, climate change and landscape perception in a region of eastern Spain.

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Director of SINIF

Abstract

Wildland fires are a landscape modeling agent that is closely linked to climatic variations and the structure of vegetation. Although it depends on the species and zones, a burned forest can take in recovering between 50 and 100 years.

Modern societies have undergone recent socio-economic changes with implications for the landscape and the natural or sustainable fire regime. Some regions of southern Europe are particularly hit by recurrent episodes of fires. In Mediterranean areas forest fires reach a larger size and occur under extreme conditions. The Valencian Community is framed within a context of Mediterranean climate favorable to the spread of fire, where it is common for a few fires to affect a high percentage of the area burned during the year and where human activities have conditioned and modified their capacity of recovery, mainly, due to recurrence.

In Spain, the Great Wildland Fires are those that leave the most trace in an increasingly ambushed landscape. Although they account for 0.18% of total claims, they account for 44% of the area burned each year. In the Valencian Community, this figure rises to 85%.

A forest fire is a disturbing phenomenon that can have a great territorial impact and suppose a dramatic change in the landscape. The visual fragility of the landscape is related to the capacity of visual absorption or ability of the landscape to accommodate modifications that produce variations in its visual character. At the time of determining the spread of fire, the structural configuration of the landscape plays an important role, for this reason in the analysis of risk and vulnerability it´s necessary to take into account the evolution of the characteristic elements of each landscape to manage the risk of an integral way.

In Mediterranean ecosystems, high population density increases ignitions and frequency of fires. The high temperatures, the drought and the west winds are the worst enemy of the forests, especially in the central and southeastern Mediterranean, scope of this study, in which, from a psychosocial approach, we will know some aspects about the way of perceiving the landscape in a region of eastern Spain.

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In summary: The future fire regime depends not only on climate, but there are other factors that can be more relevant when modeling fires and landscapes, and, without a doubt, the human being is targeted as the main fire regime modifier throughout the planet.

Biography

Psychologist and Environmental Consultant. Chief of Brigade in a Forest Fire Service with more than 20 years of experience. He collaborates with several companies and institutions in the area of training in Psychology in Emergencies and Human Resources. He is Professor at the University of Valencia in the Master in "Intervention and operational coordination in emergencies and catastrophes" and other postgraduate courses on emergencies. Director and President of the International Scientific-Professional Committee of the National Symposium on Forest Fires (SINIF). He has lectured internationally and has been part of the Organizing Committee of several International Congresses on Earth Sciences and Climate Change. He has published articles on forest fires, stress, psychosocial risks and emotional trauma, mainly in relation to emergency services and natural disasters. Currently, he is assigned to the Research Group on "Climate and Territorial Planning" (University of Alicante), where he researches on the social perception of forest fire risk and behaviour in the event of possible disasters. Email: jasenabre@sinif.es

Growth and Yield of Sweet Corn (Zea mays L.) as Influenced by Guano Char in Degraded Upland Soils

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Abstract

Biochar created from bat manure (guano) is a way to produce a value added soil amendment that is less expensive and rich in macro-nutrients, however, limited published studies about its effects on nutrient availability to plants are available. Hence, a pot experiment was conducted at the experimental site of the Department of Agriculture and Related Programs, Northwest Samar State University, San Jorge Campus, San Jorge, Samar from June 2017 to February 2018. The study aimed to determine the effects of guano char (GC) on the growth and yield of sweet corn and properties of degraded upland soils, and to determine the optimum rate of GC influencing growth and yield of sweet corn. There were five treatments used: ((T_1 - 0 g GC 15 kg^{-1} soil; T_2 - 75 g GC 15 kg^{-1} soil, T_3 - 150 g GC kg^{-1} soil, T_4 – 300 g GC kg^{-1} soil and T_5 - 600 g GC 15 kg^{-1} soil) with three replication and arranged in Randomized Complete Block Design (RCBD). Transplanting of sweet corn was done after 10 days of soil incubation. Sweet corn were harvested 65 days after planting for soil and tissue analysis and data gathered were subjected to statistical analysis using SPSS version 17. Results revealed that addition of increasing rates of guano char resulted in consistent increase on weekly plant height (cm) and fruit yield (kg) of sweet corn. Statistically, results indicated that 75 g of GC 15 kg-1 soil found as optimum rate enhancing growth and yield of sweet corn. On the other hand, addition of guano char significantly increases the soil pHH2O, % OC, total N, extractable P and exchangeable K, Ca and Mg after harvest. Likewise, plant tissue N and P concentration were also increased.

Keywords:

Biochar, guano, corn, degraded soil

Biography

The author was born on December 12, 1989. He graduated his primary and secondary education in 2002 and 2006. He finished his Bachelor's degree in Agriculture in 2010 at Visayas State University, Visca, Baybay Leyte and receive a best paper award. He worked immediately as Research Assistant in ACIAR –Australian funded (Vegetable production) and CHED funded Project (Soil Characterization in the Uplands) in the same University. In 2013, he was awarded a DOST Graduate Scholarship and finished his MS degree in 2015. In early 2015, he also worked as expert in OXFAM Project (Soil Suitability Mapping in the Yolanda-affected towns in Eastern Samar and employed as Instructor I in Northwest Samar State University at the same time conducted and published few researches until present.

Geopolymer concrete a way of sustainable construction

Manvendra Verma

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Dr. Nirendra Dev

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Abstract

Geopolymer concrete is an eco-friendly, economical, cementless, and durable concrete. By the comprehensive survey of the literature; Geopolymer concrete is sustainable development for the construction industry. Geopolymer concrete reduces the carbon footprints by the using industrial solid waste material like as Flyash and blast furnace slag as a binding material. Around one ton of carbon dioxide (CO2) emission for the production of the one ton of cement. In geopolymer concrete, we use the waste material like as flyash and slag as a binding material. And that binding material activating by the alkaline solution (sodium hydroxide and sodium silicate). Around 120 million tonnes of Flyash and 12 million tonnes of slag produced every year at the thermal power station and Steel Plant respectively in India. Presently in India, due to Limited modes of practices of utilisation use amount of slag and flyash dumped in yards of each production unit and engaging in valuable agricultural land and grave pollution to the whole environment. Hence, Geopolymer concrete is a perfect alternative to Portland cement concrete.

Biography

Manvendra Verma is presently working as a PhD research scholar in Structural Engineering Section at Delhi Technological University (Formerly Delhi College of Engineering),India. He has done his M.Tech in Structural Enginnering from National Institute of Technology, Srinagar in 2016 and B.tech from Inderprastha Engineering College, Ghaziabad (U.P.) affailiated to Uttar Pradesh Technical University, Lucknow (U.P.). His areas of interest are Concrete Technology, geopolymer concrete, cementless concrete.

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Dr. Nirendra Dev is presently working as a Professor and Head in Department of Civil Engineering at Delhi Technological University (Formerly Delhi College of Engineering), India. He has done his PhD from Indian Institute of Technology Roorkee, India. He is a Life member of Indian Society of Wind Engineering(ISWE), Indian society for construction materials and structures(ISCMS), and The Indian Science Congress Association. His areas of interest are Structural Engineering, Structural Dynamics, Finite Eliment Method, Disaster Management, High Strength Nano Composites, Concrete Technology.

A case study: Sustainable development of groundwater in Begamganj block of Bina River Basin, Madhya Pradesh, India

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Abstract
Present study is focused on steady state groundwater modelling in Begamganj block of Bina river basin in the state of Madhya Pradesh, India. Bina river is a main source of water for the domestical and irrigation supply for the locals. Results provided by the modelling after proper calibration and validation are helpful to identify the water scarce zone which can be further helpful in applying management strategies for meeting groundwater demand for the future need. In this steady state modelling top aquifer has been taken into account for the simplification of the model process. Aquifers below the top aquifer were not found suitable in meeting the water quality parameter for domestic usage, as per the norms of Indian Government. Management strategies can be applied for sustainable development of groundwater aquifer in the study area. ILWIS an open source GIS software was used to prepare the required files for the input of Visual MODFLOW. Aquifer data was collected from the data provided by Central Ground Water Board (CGWB) Bhopal, Madhya Pradesh, India and Water Resources Department (WRD) Bhopal, Madhya Pradesh, India. Validation of model was done by matching the field value collected by CGWB and WRD. After Identification of water scare zone management tools can be applied for rejuvenation in aquifer.

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Biography

Sushant Kumar is presently working as a Ph.D. research scholar in Hyraulics Engineering Section at Delhi Technological University (Formerly Delhi College of Engineering),India. He has done his M.Tech in Water Resources Enginnering from Maulana Azad National Institute of Technology, Bhopal in 2016 and B.Tech from Inderprastha Engineering College, Ghaziabad (U.P.) affailiated to Uttar Pradesh Technical University, Lucknow (U.P.). His areas of interest are Groundwater Modelling and Earthern Dams.

Degradation of Pharmaceutical Compounds using Advanced Oxidation Processes

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A. K. Haritash

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Abstract

Pharmaceutical compounds are emerging pollutants rising in concern from last few years due to their potential impact on aqueous ecosystems and human health. Different pharmaceutical drugs like anti-inflammatories, analgesics, beta blockers, lipid regulators, antimicrobials, antipileptics etc. are reached to surface and ground water and sometimes in drinking water. Various conventional methods like chemical precipitation, active carbon adsorption, activated sludge process etc. are not efficient to treat these compounds as they transfer the pollutants one form to another and are not able to completely degrade the compounds. On the other hand, advanced oxidation processes generates (AOPs) generates hydroxyl radicals (·OH) radical with very high oxidation potential. ·OH radicals are electrophilic and non-selective in nature. Various AOPs use to degrade drugs are Fenton, photo-catalysis, cavitation, ozonation etc. Combination of two or more AOPs are more efficient in degrading compounds taking less time and cost effectively. Added advantages of AOPs are no secondary pollutant generation, no phase transfer, complete mineralization of compounds and able to degrade compounds rapidly. This paper discusses different aspects of AOPs and also combination of AOPs with their advantages to degrade compounds efficiently.

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Biography

Manisha Verma is working as a research scholar in Department of Environmental Engineering, Delhi Technological University. She did her M.tech research project 'Advanced oxidative pretreatment process for enhance biodegradation of complex wastewater generated from pharmaceutical industry' National Environmental Engineering Research Institute (NEERI), Nagpur. She has 3 years teaching experience and 3 years of research experience. She has published 3 International papers and attended 8 international conferences.

Polyaromatic Hydrocarbons: Soil Pollution and Bioremediation

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Abstract

Soil is an important environmental matrix which support life of all organisms directly or indirectly. Soil pollution arises from different industrial activities, solid waste, persistent organic pollutants (POPs) like Polyaromatic hydrocarbons (PAHs). Ii is a critical challenge all over the world due to harmful effects on human health and soil ecosystem. Soil is the ultimate sink for extensive harmful contaminants. Prolonged contamination of soil with hazardous contaminants can change the behavior of soil and may have adverse effects on geotechnical properties and microbial activity of soil. Soil contaminated with organic pollutants like PAHs may affect all forms of life and have high potential health risk because these chemical compounds are highly toxic, mutagenic, and carcinogenic. Therefore, reclamation of PAH-polluted soil is essential. Several microorganisms have been found to completely mineralize the pollutants, and microorganism based PAH-removal has recently gained considerable interest for efficient biodegradation of PAHs. In this review, we discuss the effects of crude oil (PAHs) contamination on geotechnical and microbial properties of soil, and bioremediation technique for reclamation of PAH-contaminated soil.

Biography

Sakshi is a research scholar in Department of Environmental Engineering, Delhi Technological University. Being a graduate in Biotechnology she did 6 week Industrial training in IGIB(Institute of Genomics and Integrative Biology, CSIR) and did her M.Tech project in IGIB-CSIR. She attended an International conference on "Emerging Areas of Environmental Engineering (EAESE-2017) from

February 16-18,2017 at Department of Environmental Science & Engineering,Guru Jambheshwar University of Science &Technology, Hisar, Haryana and presented a review entitled "Environmental Biotechnology for control of environmental pollution"

Zinc ferrite-based composites for photocatalytic degradation of organic pollutants in water

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Van Quang Nguyen
School of Chemical Engineering, Yeungnam University, South Korea
Amr Hussein Mady
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Abstract

Recently, studies on the properties and applications of the spinel zinc ferrite ($ZnFe_2O_4$) and its composites have been flourishing. Characterized by a narrow optical band gap of 1.9 eV, good photochemical stability, low toxicity, ferromagnetic properties, environmental benignity, and natural abundance, zinc ferrite shows good potential in the visible light-assisted degradation of organic pollutants in water, especially dyes. Graphene, which is an allotrope of carbon, is an ideal choice for improving the photocatalytic efficiency of semiconductor materials, mainly because of its high specific surface area, high electronic conductivity, chemical resistance, and efficient charge transport property. In this report, the hydrothermal and solvothermal synthesis, characterization, and application on the photodegradation of dyes (e.g., methylene blue, rhodamine B) in water of zinc ferrite and its composites with graphene oxide and silver metal are discussed. The kinetics, mechanism, and stability of the zinc ferrite composites for the photodegradation of dyes are also covered.

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Biography

Marjorie L. Baynosa and Van Quang Nguyen are currently Ph.D. students in the School of Chemical Engineering, Yeungnam University, South Korea. Amr Hussein Mady holds a post-doctoral position in the same University. Professor Jae-Jin Shim is the Director of both the Institute of Clean Technology and the Clean Energy Priority Research Center of Yeungnam University.

Preliminary assessment of Water quality of Bhindawas wetland for irrigation, Haryana, India

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Abstract
The present study was undertaken in Bhindawas wetland to determine suitability of water for irrigation. Water samples were collected during premonsoon period and were analyzed to study the water quality for irrigation. Parameters of concern for irrigation viz. Sodium Absorption Ratio (SAR), Soluble Sodium Percentage (SSP), Residual Sodium Carbonate (RSC), Kelly's Ratio (KR) along with like temperature, pH, TDS, EC and total hardness of water were carried out. The pH and TDS ranged from 6.5 to 7.4 and 166 to 344 mg/l, respectively. All the sampling locations have SAR value and KR value below 10 and 2 respectively, which indicates excellent water quality of lake for irrigation. The values of SSP at each sampling locations is below 50 indicating good water for irrigation. Also RSC value for all the samples was below the value of 2.5 indicating its suitability for irrigation. According to present study it was found that all the parameters were found within the permissible range and suitable for irrigation.

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Biography

Mrs. Vandana Shan is a Senior Research Fellow (SRF) in the Department of Environmental Engineering, Delhi Technological University in Delhi. Prior to this she worked as a Contractual Faculty in Delhi Technological University in Delhi, India. She has 4 years of teaching experience, and has around 4 years of research experience. Her research expertise is water quality monitoring. She has around 4 publications in the form of research papers, conference proceedings, and a book chapter.

Geological CO_2 Storage Potential in Malay Basin, Offshore Malaysia

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Abstract

The increasing amount of greenhouse gases in the atmosphere recently has become one of the discussed topics in relation with world's concern on climate change. Developing countries' emissions are now seen to surpass developed country's emissions due to rapid economic development growth in recent decades. This paper presents the assessment of Malay basin as potential site for CO_2 sequestration in geological formations within the deep saline aquifers. The CO_2 storage capacity in saline formation assessment was conducted based on the method for quick assessment of CO_2 storage capacity in closed and semi closed saline formations modified to suit the geology setting of Malay basin. Result from data compiling using GIS-based evaluation tools shows that Malay basin was evaluated as high potential area for CO_2 storage. This site is located in productive and mature basin which is actively explored for oil and gas. It has very limited faults, located at seismic-free zone, mature basin is making the basin has a good prospect to be developed as a geological storage for CO_2. The Malay basin is estimated to be able to store CO_2 of between 84 - 114 Gt, and will give much help in reducing CO_2 emissions in atmosphere of Malaysia.

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Biography

Dr. Radzuan Junin is a Professor in the Department of Petroleum Engineering, Faculty of Chemical & Energy Engineering, Universiti Teknologi Malaysia (UTM). He has authored or co-authored more than 100 technical papers. His research interests are in rocks-fluid interactions with applications to oil and gas recovery (EOR), CO2 sequestration and contaminant transport and waste treatment. He performs experimental and theoretical research into many aspects of Petroleum Geoscience and Engineering; including pore-scale modeling of displacement processes, ultrasonic applications in oil and gas industry, and surfactant adsorption to reservoir rock minerals.

Management of Sewage in NCT of Delhi, India

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Abstract

Delhi the metro capital city of India, a fastest growing developing nation, which has got poor sewage treatment and disposal facilities. Mostly the waste water is disposed to the local water bodies without treatment which leads to pollution of various surface water like rivers, lakes etc. and pollution of ground water through wastewater seepage. So to overcome this problem various sophisticated Sewage Treatment Plants (STPs) meeting the regulatory standards should be established for wastewater treatment prior to its disposal to the receiving water bodies. Hence, this paper majorly focus upon Okhla Wastewater Treatment Plant along with other STPs situated in Delhi. A major gap was derived considering the sewage generation and its treatment capacity among various STPs of Delhi. Therefore, this paper will play a significant role in safeguarding the health of people and further allocation of STPs in Delhi.

Biography

Ms. Shreya Gupta is a 3rd year Environmental Engineering student of Delhi Technological University in Delhi. She has worked as an intern in reputed environment oriented organizations like Central Pollution Control Board (CPCB), Delhi and Centre for Science and Environment (CSE), Delhi. She has also presented a paper in International Conference of Advance Research and Innovation (ICARI-2018) and has one publication in IJARI journal. She has been a constant rank holder in environmental department of her college.

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Dr. S. K. Singh, born on 25th July, 1964, is a Professor & Dean, at Delhi Technological University, Delhi. Having throughout first division career with distinction, he has obtained his Ph.D. from BITS, Pilani and M. Tech. from IIT-BHU, Varanasi and B.E. from Gorakhpur University. He is recipient of numerous awards and honours. He is engaged in teaching, research, administration and consultancy for the last 26 years and presently is a Professor of Civil & Environmental Engineering from the last 16 years at Delhi Technological University, Delhi (Formerly Delhi College of Engineering) selected through Union Public Service Commission. He is also Independent Director , WAPCOS Limited (a " Mini Ratna-I" ,Public Sector Enterprises, Govt. of India). Dr. Singh started his esteemed career as a Faculty Member

Dr. Singh has guided 12 PhDs and about 60 M.Tech theses. He has participated in various National and International conferences, and published more than 175 research papers in national and international journals of repute. He has also authored two books. Prof. S.K.Singh has made many significant contributions in the field of science and technology but his work in Khetri Copper mines was most noteworthy. His research not only found the root cause of heavy metal pollution in the ground water but also mitigated the effects of pollution. His untiring efforts improved the ground water quality at Khetri Copper mines, hence contributed to greater good of the environment. He has showed his mettle in all other projects undertaken till date and worked towards the goal of sustainable development and environmental protection. Besides he has undertaken numerous consultancies for state government and various PSUs He has provided technical assistance as member to groups of expert set up for various tasks such as determining polluting industries in NCT of Delhi; complains/grievances for wrongful sealing of factories in residential areas of Delhi; examining proposals for establishing Degree/Diploma level technical institutions in NCT of Delhi; evaluation of projects for Department of Science and Technology (DST), Ministry of Environment and Forest, GOI; Selection Committee for faculty members at IGNOU/ I.P. University/ J.N.V.U. Jodhpur/ B.I.S. New Delhi; Technology to be adopted for establishment of Sewage Treatment Plants in various Engineering Colleges/ Institute in Punjab state and group for National Board of Accreditation constituted by AICTE, New Delhi for accreditation of technical institutions..

Dr. Singh has received felicitations and awards by professional bodies such as Rashtriya Shiksha Gaurav Puraskar 2014; INTERNATIONAL FELICITATION and WEC-IIEE-IAEWP ENVIRONMENTAL AWARD; RASHTRIYA SAMMAN PURASKAR (2005) ; EXCELLENT SERVICES AWARD; CLEAN UP THE EARTH AWARD; EMINENT PERSONALITY AWARD.)

Wastewater stabilization by Canna-based constructed wetland

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Abstract

Low cost treatment of wastewater has become a serious challenge in most of the developing countries. The present study was undertaken to investigate the potential of Canna lily based constructed wetland towards removal of Carbon, Nitrogen, and Phosphorus from wastewater. Removal of biological oxygen demand (BOD3) and chemical oxygen demand (COD) varied between 69.8-96.4% and 63.6-99.1%, respectively. C. lily could effectively remove carbon from wastewater with COD:BOD ratio of 24.4. Removal rate of Nitrogen was 809.8mg/m2-day for Total Kjeldahl's Nitrogen (TKN) and 15.0mg/ m2day for nitrate ($NO3^{-}$). Average removal was 89% for TKN and 86% for nitrate suggesting a possible use of Canna-based CW for wastewater treatment. The translocation of phosphate in plant tissue and its biochemical transformation in sediments was also studied to understand its accumulation and recirculation within the system. The removal of phosphate stabilized at around 50% and plant uptake was found to be the major removal mechanism. Average removal was 167mg/m2-day for total phosphate and 84 mg/m2-day for available phosphate for an initial loading rate of 200 mg/m2-day and 85 mg/m2-day, respectively at a HRT of 24 hours. Most of the phosphate concentrated in above ground tissue of plant and its relative accumulation was maximum in flowers. Fractionation in sediments confirmed removal by sediments with an accumulation of apatite phosphate (Ca & Mg bound), but release of non-apatite form (Fe & Al bound). High removal efficiency in the present study was attributed to higher uptake by Canna plants during the initial growth phase; and agro-climatic conditions favouring higher growth rates under Indian conditions. The study concluded that Canna lily is a potential agent for stabilization of wastewater.

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Biography

Dr. A.K. Haritash is an Assistant Professor in the Department of Environmental Engineering, DTU since August, 2007. His area of interest is environmental monitoring of Polycyclic Aromatic Hydrocarbons (PAHs), water quality assessment, wetland monitoring, and bioremediation. He has around 60 publications in the form of research papers, conference proceedings, articles, and an edited (translated from English to Hindi) book His research on biodegradation of PAHs has been conferred the status of fast breaking research in Environmental Engineering by Thomson Reuters.

Waste Management for Paper Mills Small Industry Water Treatment Plants

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Abstract

East Java (Indonesia) is many of a regional small scale industries and the production activities caused environmental pollution, especially air, water, and soil pollution. The main problem is many of waste water from small industries run strikely through the river or public canal. The objective of this research are to design and to analyze the water quality using RR Water Treatment Plants (RR-WTP) of paper mills small industry. The RR WTP used mixed method - aeration and coagulation method. The research variables are pH (acid indicator), Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), and Total Suspended Solid (TSS). This research applies quantitative method. The finding of this research reveals is the increasing of the pH, BOD, COD, and LSS, the lower water quality. The null hypothesis is there is no effect between the pH, BOD, COD, TSS and the lower water quality.

Key Words:
WTP, pH, BOD, COD, and TSS, water quality.

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Biography

Dr. Ir. Bambang Sugiyono Agus Purwono, M Sc born in Maospati - Indonesia, March 5, 1954. Lecturer in Mechanical Engineering Department – State Polytechnics of Malang. Strata-1 in Mechanical Engineering – Faculty of Technology - University of Brawijaya, Malang (1982). Master Degree in Industrial Management and Technology – ITB – Bandung (1988) and Doctor in Management Science – Faculty of Economics and Business – University of Brawijaya, Malang (2011).

Textbooks has already published are Strategic Planning, Production Management, Thermodynamics, Heat Transfer, Maintenance Management, Engineering Manufacturing Process, and Research Methodology.

As a speaker about Entrepreneurship and Cooperative in Republic of Democratic Timor Leste (2008). As a speaker in International Conference about Management Strategic and Renewable Energy in Malang, Bali, Yogyakarta, Bandung, Jakarta, Melbourne, and Hong Kong Polytechnics University. As a keynote lecture in International Conference on Green Technology for Environmental Pollution Prevention and Control (ICGTEPPC) about Renewable Energy in National Institute of Technology – Tiruchirappalli – India (2014). As a honorable speaker in Second World Congress on Pollution Control and Advances Environmental Engineering (WCPCAEE) about Renewable Energy Strategy in Bangkok Thailand (2017).

Research focus on Strategic Management, Green Technology, Micro Hydro Power Plants, Vertical and Horizontal Axis Wind Turbines, Solar Cell Energy and Water Treatment Plants.

Member of World Society of Sustainable Energy Technology (WSSET).
Member of Indonesian Management Association (AMA).

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Strategy of Simulation of Pelton Micro Hydro Power Plants

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Abstract

East Java (Indonesia) is many of the river and the production electic energy has not been explored optimally.The main problem is the water flow rate potential in Indonesia has not been used yet optimally and the demand of the electric energy is increasing faster. The objective of this research is to analyze the alternative strategy using Micro Hydro Power Plant/MHPP (simulated). MHPP used 4 and 8 unit turbine blades and the variation water flow rate is 5.0 till 26.0 [l/min] – simulated. The research variables are variation of water flow rate and variation of turbine blades to the electric power is generated by MHPP using Pelton type. This research applies quantitative method – experimental design using one way classification. The finding of this research reveals is the increasing of water flow rate and the number turbine blades, the higher power generated. The null hypothesis is rejected, it is means that there is a difference between variation of water flow rate and variation of turbine blades to the electric generated power by MHPP.

Key Words: MHPP, Simulation, Energy, water flow rate, strategic, turbine blades.

Biography

Drs. Masroni, MM born in Blitar - Indonesia, December 25, 1952. Lecturer in Mechanical Engineering Department – State Polytechnics of Malang. Strata-1 in Mechanical Engineering – Faculty of Technology - Universitas Negeri Malang - Indonesia (1986). Master Degree in Management – Technological University of Philipines - Manila (1991).

Textbooks has already published are Engineering Manufacturing Process.

As a speaker about Renewable Energy in in Second World Congress on Pollution Control and Advances Environmental Engineering (WCPCAEE) about Renewable Energy Strategy in Bangkok Thailand (2017).

Research focus on Strategic Management, Micro Hydro Power Plants, Vertical and Horizontal Axis Wind Turbines, and Steam Power Plants.

Solid Waste Trap for an Open-Typed Drainage System in the Philippines Using Permeable Filtration Concrete.

Allan Paolo S. Herrera
Holy Angel University

Abstract

One of the major problems that we've been facing nowadays in terms of environmental issue is the dirty water resources around the urban area. This research aims to reduce solid waste coming from an open-typed drainage in the nearby river along Barangay Magliman, City of San Fernando, Pampanga. Permeable Filtration Concrete is one of the sustainable materials that suits in addressing solid waste problem in the drainage systems. The materials having a void ratio between 25% to 30% and consists of mixture and admixtures; cement weight ratio to course aggregates 1:6 and cement to water weight ratio 1:0.35. In line with the weight ratio, we can use different sizes of course aggregates from 10mm up to 50mm in diameters. The water easily to permits within the materials and trapped the remaining particles if it's more than 5mm in diameter. The sample specimens have total of 0.042cu.m with a dimension of 400mm by 700mm by 150mm. All test is required for the Permeable Filtration Concrete were water permits per unit time, density test, modulus of rupture and the strength of the materials to ensure that the materials are capable and meet the standards. The sample tests were divided into three and it's corresponds to the size of course aggregates, 10mm, 30mm and 50mm.From the result will come up from each test. We can identify the percentage of water passing through the Permeable Filtration Concrete and its strength and weaknesses corresponds to the size of course aggregates.

Keywords: Solid Waste Trap, Permeable Filtration Concrete (PFC), Sustainable Filtration Concrete, Waste Trap for Drainage, Restorative for Drainage.

Biography

Allan Paolo S. Herrera was born in City of San Fernando, Pampanga, Philippines in 1996. He is currently taking B.Sc. degree in Civil Engineering from Holy Angel University, Angeles City, Philippines,

A Review of Environmental Pollution on Health and Biodiversity Loss : Adaptation and Mitigation Measures

Pranab Pal

Abstract

According to another examination from an all-inclusive research assemble Loss of biodiversity appears to influence natural frameworks as much as ecological change, pollution and other huge sorts of biological nervousness. The impacts of normal arranged assortment setback to the normal effects of a vast gathering of other human-caused biological changes. The Earth's air contains a delicate change of regularly happening gasses that trap a bit of the sun's glow near the Earth's surface. Various scientists assume that an unsafe environmental dedication could affect guileful influence human prosperity, cultivating, water resources, woods, common life, and coastline zones. Destructive rain is precipitation containing ruinous measures of nitric and sulfuric acids. In the earth, destructive rain hurts trees and causes soils and water bodies to age, making the water inadmissible for some fish and other normal life. Destructive rain has hurt Massachusetts lakes, lakes, conduits, and soils, provoking hurt regular life and woods. The past 70 years have seen a passionate augmentation in people, flexibility and the related social and common changes, which have incited an upsurge in the rate of pollutions sicknesses. Roughly 80% of outside air tainting - related surprising misfortunes worldwide are relied upon to ischamic coronary ailment and strokes, 14% passing due to consistent obstructive aspiratory sickness or exceptional lower respiratory maladies, and 6% in view of lung tumor, outdoors defilement is in like manner responsible for rising occasions of Alzheimer's contamination. It is set up that deforestation could be basic reason as it manufactures the contact among human and wild animals. Poaching of male elephant for tusk prompts disparity in the sex extent to their masses. The one-horned rhino is poached for its horn, which ought to have some Spanish fly property. Coral reef mortality additions and breaking down is stimulated due to growing temperature. In 1998, 16 for each penny of the world's corals passed on in view of higher temperature. Extended level of CO2 horribly impacts the coral building process (calcification). Specialists assess calcification could diminish 17-35 for every penny underneath pre-present day level by 2100. Sea level climb due to a far reaching temperature lift would achieve vanishing of low-lying zones and further to ends of island species. It is assessed that after flexibility, India has lost 4,696 million hectares of forest arrive, while 0.07 million hectares of woodlands arrive have been illegally encroached upon, 4.37

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million hectares has been subjected to cultivation, 0.52 million hectares given to stream valley wanders, 0.14 million hectares to endeavors and townships, 0.16 million hectares for transmission lines and lanes and rest for various purposes. In poor countries, particularly in rural areas, the health of human populations is vastly reliant upon the services of local fruitful ecosystems for food. Over 1 billion people lack right to use to safe water supplies, even as 2.6 billion people lack enough sanitation. This has led to prevalent microbial contamination of drinking water. Water-associated infectious diseases maintain up to 3.2 million lives each year, just about 6% of every one of deaths globally. Every of the ecosystem services referred to in the earlier sections is susceptible to climate, as well as will therefore be exaggerated by anthropogenic climate change. It is to be seen that unless the mankind adjusts to current conditions for the neutralizing activity and control of the sullying and affirmation of condition with basic excitement and quick trial, the dynamic and prosperous living and to secure welfare state will transform into a terrible dream. There is still look for after us. We can, to a particular degree, rearrange the system of corruption of our condition, for Mother Earth is exculpating and prepared to recover her wounds if we don't cause more horrendous ones on her. So we should act today for a prevalent tomorrow for our future generation.

Keywords :- Environment Protection, Pollution, Illegal poaching, Degradation, Loss of habitat.

Energy Recovery during Co-Processing of Solid Wastes In Cement Rotary Kiln

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Abstract
Energy is fundamental for life. It has always been foremost important resource and strategic tool to attain the minimum quality of life. Industrialization and technological advancement of modern world is possible only through effective utilization of energy. In the today's modern world the advancement in technological knowhow and prosperity of industries are almost attributed to the utilization of fossil fuels as well as alternatives fuels as energy source, especially by cement industries. Ambuja Cements Ltd., Unit: Rabriyawas has started using solid wastes (hazardous/non-hazardous) in cement rotary kiln as a partial replacement of fossil fuel. In the present work energy recovery in terms of Thermal Substitution Rate (TSR, %) during co-processing of carbon black, bio-mass, paint sludge and trade rejects with conventional fuel was studied. The tested alternative fuels represent a considerable energy potential towards utilization as energy source in cement kiln [TSR obtained were 1.86 to 15.79% (individually), as well as 28.78% (in-combination).

Keywords:
Alternative fuels, Fossil fuel, Carbon black, Paint sludge, Trade rejects, Energy recovery, Cement rotary kiln.

Biography

Prof. B.R. Bamniya, a Senior Professor and Head in the Department of Environmental Sciences, Mohanlal Sukhadia University, Udaipur. He is also Associate Dean in the faculty of Science in the University. He has 29 years of teaching experience of Undergraduate and Postgraduate level. Under his supervision Eight students have completed phD degree. He is author of four books and number of chapters in edited books. He has published more than 15 Research papers international Journals and 20 in National Journals. He is member of number of academic bodies in different Universities. He also participated in more than 40 Conferences, Workshops and Training programmes.

Biotransformation of Cr(VI) by the cyanobacterium Synechocystis sp. PUPCCC 62

Jasvirinder Singh

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Abstract

The cyanobacterial strain *Synechocystis* sp. strain PUPCCC 62 isolated from the Satluj River, Ludhiana, India was resistant to hexavalent chromium up to 200 µM with IC_{50} to be 100 µM Cr(VI). The organism removed 250 nmol Cr(VI) mg^{-1} protein in 8 h from imidazole-HCl buffer under optimized conditions of pH (6.0), temperature (28±2 °C), biomass load (200 µg protein mL^{-1}) and initial metal concentration (100 µM). The Cr(VI) removal by the organism was light/photosynthesis dependent. Kinetics of Cr(VI) removal by the test organism fitted well with the Lineweaver-Burk plot and showed V_{max} of 62.5 nmol Cr(VI) mg^{-1} protein h^{-1} and K_m of 5.8 µM Cr(VI). Not only pH of the solution, phosphate ions also influenced metal removal as Cr(VI) is taken up by the organism through phosphate transporter. It has been demonstrated that the organism enzymatically reduced Cr(VI) to Cr(III) intracellularly and excreted it outside the cells. The enzyme responsible for Cr(VI) reduction was 50 fold purified through ammonium sulphate precipitation and chromatographic techniques. The purified enzyme has 40 kD molecular weight and shared 69% homology with dihydrofolate reductase of *Bifidobacterium mongoliense*. This cyanobacaterium/its enzyme can be efficiently exploited for bioremediation of Cr(VI) laden industrial effluents before their discharge in to water bodies.

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Biomass Role in Sustainable Energy System

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Abstract

In Sustainable Transactive Renewable Energy System (STRES), the role of biomass is changed from solid fuel resource to a precursor material for production of methane and methanol using solar hydrogen and organic carbon in biomass. Hydrogen produced in the time of solar electricity surplus will be used for conversion of organic carbon in the waste biomass for production of methane and methanol. Mass and energy balance shows, that using just biomass mass decaying each year in the nature, the mankind can converse the energy supply from fossil fuels to 100 % supply of renewable fuels, using present energy infrastructure with minor adaptation. On this way creating organic carbon recycling economy will be possible. CO2 emissions in the atmosphere will go slowly down with increasing use of synthetic methanol and methane. In transition period present and new energy system can work in parallel, without any disturbance. What is most important, that all technologies for the energy carrier conversion are developed (electrolysis as water, synthesis of methane and methanol, gas and methanol engines). The STRES will be an important part of future circular economy. Transition to STRES we are solving on the same time the solar energy storage. Using the chemical storage of solar electricity in methane and methanol we can store unlimited quantity of solar electricity. Methane and methanol are proposed, as only one chemical substance able to connect four hydrogen atoms to one carbon atom as most simple solution for chemical storage.

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Registration Deadline	20 th July 2018
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