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5th GoGreen Summit & The Remedies for Climate Change

"Let's Make the planet Green"

Copthorne Kings Hotel, Singapore

18th-19th October, 2019

Organized by:

BioLEAGUES Worldwide

In Association with:

Preface

This book reports the Proceedings of the ***5th GoGreen Summit & The Remedies for Climate Change*** held at ***Copthorne Kings Hotel, Singapore*** on the ***18th & 19th of October 2019***, organized by ***BioLEAGUES Worldwide***.

The publishing department has accepted more than 120 abstracts. After an initial review of the submitted abstracts, 44 papers were presented at the conference and were accepted for publication in the Conference Proceedings. The topics that are covered in the conference include Global Warming, Pollution types & Control techniques, Renewable Energy, Recycling and Reuse, Biodiversity, Green Energy, Environmental Toxicology, Environmental Engineering, Circular Economy, Agriculture, Earth Science. We would like to thank all the participants for their contributions to the conference and the proceedings.

Reviewing papers of the ***5th GoGreen Summit*** was a challenging process that relies on the goodwill of those people involved in the field. We invited more than 15 researchers from related fields to review papers for the presentation and the publication in the ***5th GoGreen Summit*** Proceeding. We would like to thank all the reviewers for their time and effort in reviewing the documents.

Finally, we would like to thank all the proceeding team members who with much dedication have given their constant support and priceless time to bring out the proceedings in a grand and successful manner. I am sure this ***5th GoGreen Summit*** proceeding will be a credit to a large group of people, and each one of us should be proud of its successful outcome…

5th GoGreen Summit

From BioLEAGUES Director's Desk…

On behalf of **BioLEAGUES Worldwide**, I am delighted to welcome all the delegates and participants around the globe to the ***5th GoGreen Summit & the Remedies for Climate Change*** which is going to be held at **Copthorne Kings Hotel, Singapore on October 18th and 19th, 2019.**

This conference will revolve around the theme ***"Let's make the Planet Green".***

It will be a great pleasure to join with Doctorates, Research Scholars and Academicians all around the globe. You are invited to be stimulated and enriched by the latest innovations in all the aspects of Environment issues and prevention techniques, while delving into presentations surrounding transformative advances provided by a variety of disciplines.

I congratulate the Chair person, Organizing Secretary, Committee Members, coordinator BioLEAGUES and all the people involved for their efforts in organizing the 5th GoGreen Summit, Singapore and successfully conducting the International Conference and wish all the delegates and participants a very pleasant stay at Singapore

A. Siddth Kr

A. Siddth Kumar Chhajer
Director
BioLEAGUES

Message from the Conference Chair…

Good morning, it is a big pleasure to me that Bioleagues Worldwide organizing a two-days 2019 is **5th GoGreen Summit and the Remedies for Climate Change International Conference.**

Brings the biggest joy, pride and fullfilment. It is great pleasure to welcome all the delegates, speakers, and participants of this conference held at Copthorne Kings Hotel, Singapore on October 18th and 19th , 2019.

As stated in the title, the scope of the conference covers about climate change, renewable energy, and global warming, also social sciences, for the smart living, which are in a fact, requires many disciplines.

This conference may also give opportunities to under and post graduate students and researchers alike to take an active part and present research papers.

I am certain that the conference will prove to be a healthy point of academic interaction and so the students and faculty members as well will not only give but also benefit and draw inspiration also networking from the talks and presentations from the distinguished guests.

I would like to express my deep appreciation to keynote speakers for the efforts to present the ideas and methods in a lively and accessible way.

Finally, but not least, I would like to thank those who have responded to our call to take part and to contribute to this conference. We have a big hope that all of you enjoy, and get more knowledge and fruitful experience through the conference.

Dr. Bambang Sugiyono Agus Purwono
State Polytechnic of Malang – Indonesia

Message from the Organizing Secretary…

Dear Distinguished Colleagues, Academicians and Research Professionals,

It is a great honor to welcome all of you to the **"5th GoGreen Summit & the remedies for climate change"**. Our main theme will be "Updates in the field of recycling, Equipment to reduce pollution control, Advanced researches in Environmental Science, Bioremediation, Recycling, Pollution control, and Climate change" in current conference. We would like to take this opportunity and thank all the organizer for their hard work and dedications to make this conference a successful one. In addition, many thanks to the committee members, and reviewers who worked continuously to ensure quality and high standards.

We welcome all participants, presenters and attendees from all over the world to this conference and look forward to your participation

Dr. Nader Nader
Professor, Mechanical Engineering,
Prince Mohammad Bin Fahd University,
University in Khobar, Saudi Arabia

Message from the Keynote Speaker …

It is indeed my great honour to warmly welcome all attendees of the **"5th GoGreen Summit & the Remedies for Climate Change"**. On behalf the Organising Committee and myself I sincerely thank you all for your commitments and efforts in attending, preparing and presenting your innovative and valuable research and findings at this meeting. I also extend a warm welcome and gratitude to those of you who have joined us at the meeting to support your colleagues and to learn much from the other presenters. A very diverse range of distinguished speakers promise to present innovative research, interventions and control techniques at this meeting and provide each one of us with exciting opportunities to expand upon our knowledge and the direction and focus of our own specialized area of interest. I am sure many new and exciting collaborations will emerge from interactions during this meeting. I wish you all a very fruitful and productive time during this meeting and much success with your presentations and forming of new collaborations.

I welcome you all to Singapore, "The Lion City". Despite being a tiny island and a former fishing village, the modern city of Singapore is filled with so much to explore! Visit the iconic symbol of Singapore at Merlion Park and enjoy views of the waterfront before heading off to Gardens by the Bay where you can witness various flora in bloom. Then, there is Night Safari, River Safari, Zoo, Bird Park and Botanical Gardens (UNESCO Heritage Site) in case you have more time. For the shoppers, do visit Orchard Road during night time.

Dr Manoj Gupta
Associate Professor,
Mechanical Engineering NUS,
Singapore

Message from the Keynote Speaker …

On behalf of Nanotechnology and Catalysis Research Center (NANOCAT), University of Malaya, Malaysia, it gives me a great pleasure to extend greetings and a warm welcome to everyone attending the **"5th Go-Green Summit and the Remedies for Climate Change 2019"** on 18th -19th October 2019, Singapore. I am extremely happy and delighted that the organization has included me (Dr. Zaira Zaman Chowdhury, Senior Lecturer) from Nanotechnology and catalysis Research Center (NANOCAT), University of Malaya, Malaysia as a Technical committee to arrange this wonderful event. On this extraordinary meeting, the organizing committee welcomes participants from all over the world to join in this Summit. An episode of this greatness will distribute a generous opening for scientists, researchers, academicians to learn about the innovative inventions in nano-technology and engineering areas to make our environment green.

Synthesis of nano-materials and its applications in multipurpose fields have played a fundamental part in altering the extraordinary development in world economy. The comprehensive spectrum information gained throughout the contemporary past has authorized a new approach to smart nano-materials synthesis and development. This includes the planning of a nano-materials/smart materials as per consumer mandate and end practice. This tactic is the succeeding phase beyond methodically studying the nano-materials and purifying them using the ideas of physics, chemistry as well as nanotechnology. The assorted backings of the nano-materials science and engineering have engendered an interdisciplinary arena with biologists, engineers and scientists. The environmental perspective of fabrication of smart/nano-materials plays a vital role in climate change and make it green and ecofriendly.

As a Government HCOE center, our institute has a distinct record of accomplishments in the field of industrial training (ITP) and multidisciplinary research. It has continuously been dynamic in inaugurating collaborative association with reputed universities, industries, international institutions and with R & D organizations for realizing excellence. I am sure that this Summit will give remarkable effect for the understandings of scientific knowledge in the areas of nano materials science and engineering and its' applications in numerous sections. This workshop will in turn enhance not only commercial strength but also materialistic affluence of the community and shall update the acquaintance in the development of smart materials science and engineering for environmental protection and climate change.

I wish grand success of this event.

Dr. Zaira Zaman Chowdhury
Senior Lecturer, Nanotechnology and Catalysis Research Center (NANOCAT), University of Malaya, Malaysia
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From BioLEAGUES CEO's Desk…

It is indeed a privilege to acknowledge and thank all the supporters and organizers of the "**5th GoGreen Summit & the Remedies for Climate Change**", who contributed greatly to organize the conference successfully.

I would like to acknowledge and thank the Chief Guest for his/her valuable contribution in the ***5th GoGreen Summit, Singapore.***

My special thanks to all of our Special Guests who so graciously accepted our invitation to participate in the conference. I also wish to acknowledge and thank the sponsors of the conference whose financial support was extremely grateful.

I would like to specially thank our Advisory Committee Members from various Organization whose continuous support have helped us plan and execute the conference successfully.

I am highly indebted to the contribution given by all the Scientists, Doctorates, Research Scholars, Academicians and students to the conference.

Mr. R. B Satapathy
CEO
BioLEAGUES

Keynote Speakers

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5th GoGreen Summit
18th-19th October 2019 at Singapore

Magnesium Materials/Technology for Mitigating Global Warming and Healthier/Greener Planet Earth

M. Gupta
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Abstract

Magnesium is one of the most abundant element available in planet earth and is also required for good health of humans, plants and animals. Its abundance makes it sustainable and its nutritional characteristics suggest its non-toxic behavior. Magnesium is also the lightest metallic element that can be used is structural applications and potentially can replace aluminum and steels in weight critical applications particularly in transportation sector which is a key emitter of carbon dioxide. Accordingly, the use of magnesium based materials is a sustainable and greener option due to its capability to reduce global warming and inability to toxify land and water bodies. Further, it can reduce noise pollution and assist in electromagnetic shielding that is carcinogenic in nature. Its use as temporary biomedical implant avoids stress shielding effect, revision surgery and minimizes patient trauma and medical costs. In view of the remarkable inherent characteristics of magnesium, the present talk will aim to provide an insight into magnesium based materials and their significant potential in very near future.

Keywords

Magnesium, light weighting, biomaterial, processing, properties

Biography

Dr Manoj Gupta was a former Head of Materials Division of the Mechanical Engineering Department and Director designate of Materials Science and Engineering Initiative at NUS, Singapore. He did his Ph.D. from University of California, Irvine, USA (1992), and postdoctoral research at University of Alberta, Canada (1992). In August 2017 he was highlighted among Top 1% Scientist of the World Position by The Universal Scientific Education and Research Network and among 2.5% among scientists as per ResearchGate. To his credit are: (i) Disintegrated Melt Deposition technique and (ii) Hybrid Microwave Sintering technique, an energy efficient solid-state processing method to synthesize alloys/micro/nano-composites. He has published over 525 peer reviewed journal papers and owns two

US patents and one Trade Secret. His current h-index is 61, RG index is > 47 and citations are greater than 14000. He has also co-authored six books, published by John Wiley, Springer and MRF - USA. He is Editor-in-chief/Editor of twelve international peer reviewed journals. In 2018 he was announced World Academy Championship Winner in the area of Biomedical Sciences by International Agency for Standards and Ratings. A multiple award winner, he actively collaborate/visit Japan, France, Saudi Arabia, Qatar, China, USA and India as a visiting researcher, professor and chair professor.

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5th GoGreen Summit
18th-19th October 2019 at Singapore

Heavy Metals Concentration in Etak Tissue at Different Processing Stages

Dr. Zaira Zaman Chowdhury

Nanotechnology and Catalysis Research Center (NANOCAT), Institute of Advanced Studies, University of Malaya, Malaysia

Abstract

This research deals with the effect of the temperature on the physical, thermal, electrochemical, and adsorption properties of the carbon Nano/micro-spheres using hydrothermal carbonization (HTC). Until recently, limited research has been conducted regarding the effects of delignification during the HTC process of biomass residues especially Dimocarpus longan. In this regard, lignin was first extracted from the lingo-cellulosic waste of Longan fruit peel (Dimocarpus longan). The holocellulose (HC) separated from lignin and raw biomass substrates (Longan fruit exocarp/peel powder, LFP) were carbonized at different temperatures using water as the green catalyst. Hydrothermal carbonization (HTC) was performed for both of the samples (LFP and HC) at 200 °C, 250 °C, and 300 °C for 24 h each. The surface morphological structures, the porosity, and the Brunauer-Emmett-Teller (BET) surface area of the prepared micro-spherical carbon were determined. The BET surface areas obtained for HC-based carbon samples were lower than that of the raw LFP based carbon samples. The carbon obtained was characterized using ultimate and proximate analyses. The surface morphological features and phase transformation of the synthesized micro-spherical carbon was characterized by a field-emission scanning electron microscopy (FE-SEM) and X-ray diffraction (XRD) analysis. The results demonstrated that the extraction of lignin could significantly alter the end properties of the synthesized carbon sample. The carbon spheres derived from LFP showed a higher carbon content than the HC-based carbon. The absence of lignin in the holo-cellulose (HC) made it easy to disintegrate in comparison to the raw, LFP-based carbon samples during the HTC process. The carbonaceous samples (LFP-300 and HC-300) prepared at 300 °C were selected and their adsorption performance for Pb (II) cations was observed using Langmuir, Freundlich, and Temkin linear isotherm models. At 30 °C, the equilibrium data followed the Langmuir isotherm model more than the Freundlich and Temkin model for both the LFP-300 sample and the HC-300 sample. The potential of the synthesized carbon microspheres were further analyzed by thermodynamic characterizations of the adsorption equilibrium system.

Biography

Dr. Zaira Zaman Chowdhury is working as a Senior Lecturer in Nanotechnology & Catalysis Research Centre (NANOCAT), a potential National HICOE and UM COE. Earlier she was appointed as Senior Research Fellow under the same institution. She has completed her Post Doctoral Research Fellowship from 1/10/2013-31/03/2015 in Nanotechnology & Catalysis Research Centre (NANOCAT), University Malaya. Previously she was appointed as Research Officer in Nanotechnology & Catalysis Research Centre (NANOCAT), University Malaya from 1/04/2013 to 30/09/2013. She has started her career in University Malaya from November 2008 as Research Assistant in Department of Chemistry under supervision of Prof. Dr. Sharifuddin Mohd. Zain. She received her PhD in Environmental Analytical Chemistry from University of Malaya in 2013, whilst MSc. in Polymer Engineering and Technology from University of Dhaka, Bangladesh in 2003, and BSc. in Applied Chemistry and Chemical Engineering Technology from University of Dhaka, Bangladesh in 2001 and Bachelor in Education (BEd.) in 2007 from Royale University of Dhaka, Bangladesh. She has completed her Training in Environmental Analytical Chemistry from TAFE, Sydney, Australia. She has received Cambridge International Diploma for Teacher & Trainers (CIDTT) from Cambridge University, UK with "Distinction" in 2006-2007. She has experience in development of fibre polymer composites, waste water treatment and adsorbent preparation for batch and fixed bed adsorption system. She has worked for synthesis of micro and nano structured carbon and biomass processing using catalyst. She has conducted some research to illustrate the catalytic application of carbon as well as extraction of nano and micro dimensional cellulose. She has contributed more than 70 papers in ISI top ranking journals with 55 international Conference Proceedings.

Dr. Zaira has received several esteemed award such as Best Scientist Award in Applied Chemistry and Chemical Engineering from International Multidisciplinary Research Foundation (IMRF), in 2019 from India.

Best Research Article in 2016 from Auckland University, New Zealand, ISPA Gunasekaran Award in 2017 from India, Best Nano Scientist Award from AMET University in 2018, Elsevier's Atlas award in 2015, Gold Award and Silver Award from Malaysian Inventions and Design Society (MINDS) and University Malaysia Perlis (UniMAP, 2013). She has received CIMA Appreciation Award from Malaysian Inventions and Design Society (MINDS) and University Malaysia Perlis (UniMAP, 2013). Recently she has received Bronze Award from International Engineering Innovation and Invention Exhibition (IENVEX), Universiti Malaysia Perlis (UniMAP 2014).

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ABSTRACTS

Energy Policy to Promote Alternative and Renewable Energy Technologies

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Abstract

The environmental consequences and depletion of fossil fuel reserves have pushed energy users to wider use of renewable energy sources. Renewable energy sources are almost evenly distributed all over the world, however, the application is still very insignificant in many countries. From the learning experience of last two decades, the renewable energy technologies are matured enough in at least technical aspect. Despite the technical maturity, only a few countries are successful and most of the remaining are yet to find the way to explore full potential. To address the challenges, it is important to find out the reasons which make a few countries successful. A range of policy measures in the successful countries has been found in place to promote the use of renewable energy. Different countries enact policy measures by considering their effectiveness and strategic objectives. Although the energy policy objectives are very similar for most of the countries-such as reducing GHG emissions, relieving dependence on imported fossil fuels, creating fuel diversity, reducing price risk, the policy measures are chosen based on national context which is shaped by topographical, sociocultural and economic conditions. We discuss the energy policy measures that drive renewable energy application to a new height in few countries. We found that feed-in-laws, quota obligations, renewable targets, incentives, tax rebates, market premium, emission trading, green certificates, and transportation fuel policy are the major policy mechanisms that lead renewable energy to a success.

ISBN: 978-93-89107-44-9

Biography

Md. Mizanur Rahman is a senior lecturer in the Department of Thermo-Fluids, School of Mechanical Engineering, Universiti Teknologi Malaysia-UTM. Before joining at UTM, he has served as a postdoctoral researcher at Aalto University School of Engineering, Finland. He received his PhD degree in energy technology from Aalto University, Finland and M.Sc. degree in sustainable energy engineering from Royal Institute of Technology KTH, Sweden. His research interests include energy economics, energy system analysis, rural electrification, sustainable and renewable energy, energy efficiency, and distributed power generation.

Aminuddin Saat is a senior lecturer at the Department of Thermo-Fluids, School of Mechanical Engineering, Universiti Teknologi Malaysia. Dr. Aminuddin has earned his PhD in Mechanical Engineering (Combustion and flame studies) from University of Leeds, United Kingdom.

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How Telecommuting Could Help Housing Shortage in Urban Areas and Greener Lifestyles

Csaba Barnabas Horvath

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Abstract

Telecommuting is a new phenomenon of our times. While it will most likely play an ever increasing and key role in the foreseeable future, much of its' full economic and social potentials are still unexplored. By relieving employees from the need being located near their employers, it has a vast unexplored potential in easing the housing crises that plagues much of the world's large urban centers, and at the time, also in access to greener lifestyles. Telecommuting offers the potential for employees to move out from urban centers, not only to outer areas of urban agglomerations, but potentially even outright to rural areas, while still being able to perform jobs for employees based in urban centers. If employers that chose to employ via telecommuting and employees working that way who chose moving out from urban centers reaches a critical mass, this could have a sufficient impact to ease housing crisis in urban centers, while at the same time, reviving rural communities too, by drawing services there due to the demand that employees working by telecommuting represent. Above all, it also gives a chance for greener lifestyles to those who opt to move out to rural areas.

ISBN: 978-93-89107-44-9

Biography

Csaba Barnabas Horvath is a research fellow at the Silk Road Research Group of the Hungarian Academy of Sciences. He obtained his PhD in International Relations at the Corvinus University of Budapest. Dr Horvath also worked as a visiting researcher at among others, the Australian National University in Canberra, at the National Chengchi University in Taipei, and at the Fudan University in Shanghai.

Reattachment Length and Heat Transfer Characteristics of Covalently Functionalized Graphene Nanofluid Encountered in a Backward Facing Step-A Green and Facile Approach

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Mohd. Rafi Bin Johan
Nanotechnology and Catalysis Research Center (NANOCAT), Institute of Advanced Studies, University of Malaya, Malaysia

Abstract
Numerical simulation and experimental exploration of nanofluid flow and conductive heat transfer in a uniformly heated tube consisting of a horizontal backward-facing step (BFS) has been presented in this article. Forced convective heat transfer coefficient in the reattachment region for the nanofluid flow has been a concern for quite some time using functionalized graphene. But the functionalization of graphene involved hazardous acids to ensure the development of turbulent flow. Here an experiment is performed at different weight concentration of clove treated Graphene nanoparticles. Adopted functionalization technique is green and ecofriendly. Aqueous suspension of clove treated graphene has been flowed through the BFS tube for the concentration range of 0.025% to 0.1 wt.% and Reynolds number of 3000 to 18000. The distribution of Nusselt number at the top and the bottom walls of the BFS are measured. The average heat transfer coefficient ratio increases significantly. An increase in average Nusselt number with the volume fraction of nanoparticles is also visible. Presented result confirms the replacement of harmful and polluting aqueous suspension of acids as coolants in heat exchangers.

ISBN: 978-93-89107-44-9

Biography

The participant has been a PhD student affiliated to the faculty of NANOCAT in the University of Malaya since February,2019. Her research topics include microporous and mesoporous carbon, graphene nano particle, green synthesis and functionalization of graphene, graphene and CNT nano composites, coolant for heat exchanger, wastewater treatment with smart carbon material. Prior to the research she has graduated as a Master of Science with major in Physics.

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UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH

Implications of Energy Efficiency in the Real Estate Housing Market: Evidence from the EnerValor Project in Barcelona

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Barcelona's School of Architecture, Centre for Land Policy and Valuations, Technical University of Catalonia, Spain
Ai, Chen
Barcelona's School of Architecture, Centre for Land Policy and Valuations, Technical University of Catalonia, Spain

Abstract
In order to foster the development and retrofit of energy-efficient real estate, the EU designed the Energy Performance Certificate (EPC) Scheme. The rationale of such European policy is that informed transactions (i.e. lease/buy) will lead prioritizing efficient-buildings in the form of larger prices and demand's preference. This paper summarizes the findings of the EnerValor project aimed at exploring the implications of such a Scheme in the Spanish housing market. In doing so listing prices are analyzed using conventional and GWR hedonic models for metropolitan Barcelona. Results suggest that the EPC marginal price is small in relation to other European cities, nevertheless it increases along the time as the scheme gains awareness and the market is recovered after the 2008 crisis. Furthermore, the impact of energy efficiency is not stationary across the city, but tends to be larger in poor neighborhood depreciating the main asset of low-income population. Such findings have large implications for both energy policy and the property industry.

Biography
Norhafizah Abdullah is an associate professor at the Department of Chemical and Environmental 1) Architect, Master in Real Estate Assessment and PhD in Land Management and Valuations. Is Associate Professor at the Barcelona's School of Architecture and researcher at the Centre for Land Policy and Valuations. His research is focused on real estate and non-market asset valuation as well as urban and territorial management. His latest research line is focused on energy efficiency in the housing market and innovative financial instruments intended to retrofit low-income housing including land value capture. He is a Recognised European Valuer and a member of the Recognition

Committee at TEGoVA. He is an editor of ACE Journal: Architecture, City and Environment (2Q SJR) https://www.researchgate.net/profile/Carlos_Duarte14 https://futur.upc.edu/181565
2) PhD candidate at the Land Management and Architectural Valuation

Exploring the Use of Algae Farming in Providing Solutions to Environmental Issues While Creating New Economic Opportunities

Benedict Tan
AenGlobal Pte. Ltd, Singapore

Abstract

Eutrophication is a major environmental issues. The term eutrophication refers to conditions where water has such a high nutrient content that microscopic green algal blooms occur, causing serious environmental issues as a result. There are several causes of eutrophication such as water pollution from wastes containing plant nutrients such as nitrates and phosphates, rainwater runoff from farms entering water bodies and discharge of treated sewage effluent that had not undergone nutrient removal processes. The algal blooms are more than unsightly; they also impart unpleasant smells and tastes to the water, and when they die and decompose, consume such large quantities of oxygen that aquatic life is killed as a result. Exacerbating matters, many species of algae such as dinoflagellates or blue-green algae (correctly a family of bacteria known as cyanobacteria, but often regarded as algae as they are photosynthetic autotrophs) are also toxic or release toxins. This paper seeks to explore the possibility of leveraging upon the conditions leading to eutrophication to farm beneficial algae species instead, so as to reduce the water nutrient content to levels that will not result in eutrophication while developing new economic opportunities concurrently..

Biography

Mr. Benedict Tan has a post-graduate certificate in Water and Wastewater Engineering from Griffith University. He is one of the pioneers of constructed wetland science and technology in Singapore, being the designer of the Constructed Treatment Wetland in Commonwealth Secondary School, the first ever constructed wetland wastewater treatment and recycling system in the country. He is also the designer of the Acid Rain Wetland in Fu Hua Primary School, a revolutionary new non-chemical method of mitigating the impact of acid rain upon receiving water bodies.

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How to Solve Water Problem of Ajmer? Interlinking of Rivers Can Solve the Water Problem in Rajasthan

Dr Rashmi Sharma
SPCGCA, Ajmer, Rajasthan, India

Abstract

Ajmer is located in the center of Rajasthan (INDIA) between 25 0 38 " and 26 0 58 " north 75 0 22" east longitude covering a geographical area of about 8481sq km hemmed in all sides by Aravalli hills . About 7 miles from the city is Pushkar lake created by the touch of lord Brahma. The Dargah of khawaja Moinuddin chisti is holiest shrine next to Mecca in the world. Ajmer is abode of certain flora and fauna that are particularly endemic to semi-arid and are specially adapted to survive in the dry waterless region of the state. Water problem is the is great problem of Rajasthan . Due to Scarcity of Rains Interlinking of Rivers like Indira Gandhi canal and Luni River and Banas River can solve the water scarcity problem of Rajasthan.

Key words

Interlinking rivers , Rajasthan .

Plastic Calamity in the World and Its Reuse

Dr Rashmi Sharma
SPCGCA, Ajmer, Rajasthan, India

Abstract
Plastics are synthetic organic polymers that can be molded, chains of carbon atoms pure or with addition of oxygen, nitrogen or sulfur. Plastics are used in place of plant material , wood, stone, horn, bone, metal, glass, etc. Because plastic are hard, dense, tensile, strong, and heat resistant. Thermoplastic are plastic when heated do not undergo chemical change and molded again and again. Polythene (PE), Polypropylene(PP), Polystyrene(PS), Polyvenyl chloride (PVC). More than 5.25 trillion particles of plastic weighing 268,940 tons float at sea. Plastic take 500 to 1000 or more years to degrade. India produce 15000 Tons of plastic . 9000 Tons of plastic in India remains untreated. 28 MT of plastic products consumed every year. Plastic have outgrown all man made artificial materials. 8400 million metric tons of Plastic have been produced. 6300mt tons of waste have been generated, 9% recycled, 12% incinerated, 79% accumulated in environment, 12000 mt tons of Plastic waste will be in natural environment By 2050.

Key words
Plastic, Reuse, Rajasthan.

Integration of Renewable Energy Technologies in Tall Building Design: Energy Conservation and Environmental Sustainability

Dr. M. Arif Kamal

Aligarh Muslim University, India

Abstract

Tall buildings are considered as a great consumer of energy which utilized huge amount of resources and materials; produce massive volumes of waste discharge into the environment and more often called as unsustainable buildings. Building materials such as steel and cement with high intensities of embodied energy are required to create the skeletal framework and lay the foundation for their long lasting structures. With hundreds to thousands of people being serviced through the facility, there is extensive use of energy for heating/cooling purposes, lighting, waste management, mobility through elevators etc. But, recently there has now been a paradigm shift with a new generation of high rise buildings that have been designed with reference to sustainable architecture especially towards the application of renewable sources of energy. The growing global pressure to reduce carbon footprint and concerns for creating sustainable habitats, have also greatly ignited the quest to delve for innovative solutions and emerging trends in tall building designs. Bioclimatic skyscrapers are launched around the world that are sustainable, energy efficient and satisfy the needs of its communities and population. This paper discusses environmental sustainability in tall buildings with special reference to the application of renewable energy technologies. Further the paper also validates the application of renewable energy technologies by two detailed case study namely Bahrain World Trade Center, Bahrain and The Pearl River Tower, Guangzhou.

Biography

Dr. M. Arif Kamal did his B. Arch. with Honors from AMU, Aligarh, India in 2000, and M. Arch. In 2002 on a MHRD GATE Fellowship and Ph. D. in 2007 through MHRD Fellowship from IIT, Roorkee in 2007. The author's major fields of interest are Environmental Design, Sustainable Architecture, Climate Responsive Architecture, Traditional Architecture etc. Dr. Kamal is presently working as an Associate Professor at AMU, Aligarh. Dr. Kamal is Editorial Board Member of many International Journals and Conferences related to the field of Architecture and Building Engineering. He is life time member of Council of Architecture, India and Associate member of Indian Institute of Architects, India.

BBD UNIVERSITY

Soil Carbon Sequestration in Silvipasture: An Approach for Conservation of Environment and Socio-Economic Development

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Abstract
Soil carbon play important role in functioning of agro-ecosystem, influencing soil fertility, water-holding capacity and in the mitigation of atmospheric CO_2 levels. Present study, aims to assess the soil carbon sequestration for environment conservation by silvipasture situated in different agro climatic zones of Utter Pradesh i.e. Vindhyan region (Sonbhadra), Bundelkhand region (Jhansi) and Central Plain (Etawa). Silvipasture were developed by Joint Forest Management Committee (JFMC) and Forest Department Agencies (FDA) during 2007-2009 to facilitate strengthens socio-economy of local communities by rearing livestock for milk, manure and as wealth. In each agro climatic region, two JFMC were selected i.e., Rampur (Patna range) and Baradar (Machi range) in Vindhyan region,

Katera and Khishni (Mauranipur range) in Bundelkhand region while Ashuha and Bela (Badpura range) in Central Plain. Result showed that SOC in Rampur of Vindhyan region was maximum (2.69 - 14.69 Mt/ha) and carbon sequestration potential and then Katera in Bundelkhand region (range from 20.12 - 10.305 Mt/ha), while least in Central Plain i.e. Barapur in Itawa (range from 0.89 – 2.404 Mt/ha) which was equivalent amount of CO_2 sequestrated from atmosphere were range from 9.896 – 53.86 Mt, 7.799 – 37.785 Mt and 3.259 – 8.814 Mt CO2 equivalent respectively. The underlying premises of building soil organic matter and revegetation as a climatic change mitigation strategy is that healthy soils store carbon and support plant growth, which can remove more CO_2 from atmosphere than existing pastureland poor in carbon and barren lands which promote the pastureland development in the form of silvipasture for environment conservation.

Biography

Dr. Pramod Kumar Singh is working as Associate Professor, Environmental Science Division, Department of Chemistry, School of Basic Sciences, Babu Banarasi Das University, Lucknow-226028 (U.P.) India since September 2007. He had gained his Doctoral degree in 2003 in Botany from University of Lucknow, Lucknow. He had worked as Senior Research Fellow, Research Associate, Young Scientist and Mentor Scientist. He had 18 years post doctoral research experience in field of Stress Environment, Plant Physiology and Soil Crop Interaction, carbon sequestration, waste water treatment and more than 14 years teaching experience at graduate and post graduate levels. He had guided Two M Phill, four Ph D students awarded degree and six students are perusing PhD under supervision of him. He had published more than 43 research papers in peer reviewed national and international journals and presented more than 24 papers in national and international conferences

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Advanced Treatment Technology of Tannery Waste Water

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Abstract

Tannery wastewater (effluent) is highly complex and characterized by high contents of organic, inorganic and nitrogenous compounds, chromium, sulfides, suspended solids and dissolved solids. Wastewater drawn from Secondary Clarifier (after biological treatment) of M/s. Pallavaram Tanners Industrial Effluent Treatment Co.Ltd (PTIET) is used in this treatment process. PTIET is a Common Effluent Treatment Plant (CETP) which is carrying out treatment of effluents collected from 152 member tanneries. The treatment process in the CETP includes primary physio - chemical treatment followed by a secondary biological treatment.

Batch reactor consists of Titanium electrodes coated with triple oxides is used in the electro – oxidation process. DC has been applied in the experiment to carry out the electro --oxidation process. Subsequently DC along with ozone also applied in the treatment process. From the results, it can be concluded that physical / chemical processes and biological processes followed by electro – oxidation with ozone application is the better option for the treatment of tannery wastewater especially in the removal of total organic carbon (TOC). The optimum operating conditions have been determined and applied to the treatment process. The achieved maximum efficiency was 80%.

Keywords:

Electro – Oxidation, Tannery Wastewater

Biography

S.THIRUMURTHY INBARAJ has received Bachelor Degree - B.Tech in Chemical Engineering from Vellore Institute of Technology, Tamilnadu , India and Master Degree - M.E in Chemical Engineering from Annamalai University, Tamilnadu , India. He has worked as HSE Engineer in M/s. Jurong Shipyard Ltd, Singapore and HSE Manager in M/s. Larsen and Toubro Shipbuilding Ltd, Chennai, Tamilnadu, India. At present, he has been working as Engineer - Environmental in Tamil Nadu Pollution Control Board, Chennai, India. His current research interest is on treatment of tannery waste water.


The Role of Civil Engineering to Achieve Sustainable Development

Jyoti Kumari
Delhi Technological University, Delhi, India
Mansi Sharma
Delhi Technological University, Delhi, India

Abstract

The technology construct with environmental study discipline has centered on advancing environmental property through up provision of water, sanitation, and hygiene services .The skills and experience that's among the discipline of technology are basic to achieve a way broader vary of property development goals, as well as those associated with health, climate, water, energy, and food security; economic development; and reduction of social inequalities.

Accordingly, this analysis can have many focus areas wherever technology ought to have more active presence within the world community that seeks to attain property in developing regions of the planet.

The number of challenges we've to hide for the developing space ought to be as follow;

(1) By constructing connected roadways providing improved public safety and fewer congestion i.e., information processing.

(2) By adapting climate resilient style like MES (Mechanically Stable Earth) wall use to restrict impact of serious downfall.

(3) Add concrete of best quality to scale back dioxide emission.

(4) address emissions of greenhouse gases and alternative vital carbon – containing pollutants;

(5) address the complicated interactions of water energy systems;

(6) Transition to a sustainable economy;

(7) Advance watching, evaluation, and assessment activities that embrace life cycle assessment.

Our hope is that this analysis ends up in a more robust world through monumental improvements within the atmosphere and human well-being and drives new innovations and opportunities in analysis, education, practice, and repair.

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UFRGS
UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL

Solis, a Path to Light

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Abstract

Solis is based in the nowadays logic where edifications are built, hiding its internal areas from the sun, so, artificial light is necessary, this logic isn't sustainable. Solis aims to make better use from the sunlight.The idea to create a lightning technology system which uses the sunlight to illuminate inside spaces with zero energy cost. This system uses optical fibers to conduct the sunlight through the building to inside spaces where lamps would have been necessary, this way decreasing the amount of energy spent. The project aims to reduce the total costs of the university and from establishments that normally need many light lamps turned on during the day, like offices. Besides that, as most of the energy sources utilized currently come from non-renewable sources this project helps the environment by reducing the amount of spent energy. The project also follows as reference the 17 Sustainable

Development Objectives of UN, covering 3 of these goals: 9 (Industry, innovation and infrastructure), 11 (Sustainable cities and communities) and 12 (Responsible consumption and production).

Biography

The members of the Solis Project are newcomers from the Engineering School (EE) of the Federal University of Rio Grande do Sul (UFRGS). This Project was created during the 2019 Sustainable UFRGS Challenge, which unites freshmen from different engineering courses to create a sustainability idea to be applied in the university. Solis has 5 members from 3 different Engineering courses; being Mechanical Engineering (Rafael Lima, Lucas Niluk and Henrique Kauer), Environmental Engineering (Amanda Giovanaz) and Mine Engineering (Artur Bernardi).

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Assessment of Solar Panels using an Auto/Self-Cleaning System: Case Study at Al-Khobar

Nader A. Nader
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Abstract

There is no denial that renewable energy is considered to be the most cost-competitive source of clean power in many parts of the world. Saudi Arabia's vision 2030 aims at achieving the best by using different sources of renewable energy such as solar energy, wind energy, and others. The use of solar energy in particular for power generation will decrease the dependency on oil and thus decrease the greenhouse gasses. Solar panels efficiency tends to decrease with the accumulation of dust on the solar panels. Thus a cleaning process requires assigning and employing labor which increases the cost of running as well as high cost of machinery. The current study focuses on assessing and designing a simple auto self-cleaning system in order to improve the efficiency of the solar panel. The results showed that for the Al-Khobar region, Eastern Province, Kingdom of Saudi Arabia, the efficiency of the solar panels after cleaning increased to average of 12% at nominal temperature of 42°C. In addition, the output power output was increased by 35% at noon time.

Biography

Dr. Nader areas of expertise are in thermo-fluids, ICE and HVAC systems. His research interests are mainly in the assessment and design of the following: renewable energy systems, phase change material, hybrid air-conditioning, and turbocharge system for internal combustion engines. In addition, Dr. Nader has supervised more than forty senior projects and instrumental in establishing the Mechanical Engineering Department at PMU. Moreover, Dr. Nader established the ASME-PMU chapters and has been advisor and supervisor to many accomplished ASME projects, regional and finals student design competition.

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Identification of Biofuel Plants Using Machine Learning Techniques

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Himanshu
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Abstract

Our proposed work give an idea on the prospective technology for the production of clean energy in the form of biofuels. The fast growing society needs energy which could be generated from plants like corn to get converted to ethanol and to be used as fuel. Due to increasing use of fossil fuels in automobiles and industrial sectors, in the past few years, the world has started facing severe problems like environmental pollution, ozone layer depletion, global warming. Therefore, we implement a model on identification of biofuel plants using Machine Learning algorithm to help making use of efficient green energy. Biofuels can replace the present energy crisis and further help in reducing usage of fossil fuels and global warming. Utilization of biofuels results in the reduction of global warming and also helps in maintaining the demand and supply levels of fossil fuels. Our present work gives an idea to identify different types of plants which can be used to produce biofuels using IOT which consists of machine learning methods using Mask-R-Convolutional Neural Network (an improved version of Faster-R-CNN), that helps in classifying different plants present in real world that can be used as an alternative for fuel and classify them on the basis of procreated data set.

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Biography

Mr.Sanjay Patidar currently working as an Assistant Professor in the Department of Computer Science and Engineering, Delhi Technological University,New Delhi ,India .His area of research in data mining,Machine learning,IOT,Data Analysis along with Sumit Kumar Sharma,T S Sahil,Utkarsh Singh,Himanshu who are currently pursuing B.Tech in computer science and engineering as final year students from the same university are working on this work.

Comparative Analysis of Sludge Reutilization Projects in the States of São Paulo and Paraná

Simone Ramires
Federal University of Rio Grande do Sul and Metodista University of São Paulo, Brazil

Caroline Gomes Martins e Elaine de Lira Guimarães
Federal University of Rio Grande do Sul and Metodista University of São Paulo, Brazil

Abstract
From the observation of the growing demand for energy and of the great generation and disposal in the landfill of the sludge coming from the Sewage Treatment Stations - ETE, a gap was observed in this area. Also, this paper intends to explain the processes involved in the treatment of domestic effluents, the panorama on the use of renewable energies in Brazil and worldwide, besides the case studies. It is known that the generation of energy through sewage sludge has considerable importance these days as it is a clean and renewable energy that comes from a resource that is not so exploited. The development of this new energy source can help the current energy supply, in the case of Brazil, is from hydroelectric plants, in addition to increasing the useful life of landfills, since they are final destinations of the sludge. With the use of biogas, for the generation of electric energy, there is a considered reduction in the potential of pollution of the environment, since it is composed of a high concentration of methane gas (CH_4), about 24 times higher than carbon dioxide (CO_2), with regard to the greenhouse effect.

Biography
Holds a degree in Civil Engineering from URI (2002), Master in Geotechnics from the Federal University of Rio Grande do Sul (2010), PhD student at PPGE3M / UFRGS. She worked as a lecturer at the Federal University of Mato Grosso from 2011 to 2014 and is a collaborator at the PPGEEA / UFMT. Currently, she works at UFRGS in Production Engineering as a Teacher, Advisor at the School of Engineering, Researcher at the Nucleus of Educational Engineering - NEED and Coordinator of Sustainable Projects. Has experience in Civil Engineering, with emphasis on Engineering Teaching, working mainly in the following subjects: engineering teaching, geotechnics, innovation.

Facile Green Synthesis of Visible Active Nano Titania Using Corn Pith, Pista Shells and Tamarind Seeds as Templates and Its Photocatalytic Application

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G.R. Rajarajeswari
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Abstract

Synthesis of visibly active nano-titania with large surface area can be achieved by mediating the synthesis with templates. Using bio-waste materials as templates proves to be an eco-friendly as well as economically beneficial method for the synthesis of nanoparticles. In the present study, biowaste corn pith, pista shells and tamarind seeds which are thrown as waste, have been used as templates in the sol-gel synthesis of Corn Pith Titania (CPT), Pista Shell Titania (PST), Tamarind Seed Titania (TST). XRD results of CPT, PST and TST indicated that the synthesised catalysts were in anatase form. The crystallite size of CPT, PST and TST was found to be 12.26 nm, 12.28 nm and 15.55 nm respectively proving it to be smaller than that of non-templated titania. Surface area of templated titania was found to be larger than that of non-templated titania improving its efficiency in the photocatalytic activity, which was monitored via the degradation of methyl orange dye. Corn pith, pista shells and tamarind seeds, were found to provide an efficient hand in the controlled growth of titania

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and solid support in photocatalytic applications due to which it can be regarded as an effective biowaste green templates in the synthesis of nano-titania.

Biography

Dr. T. Preethi, currently working as an Assistant Professor, has strong inclination towards pursuit of knowledge and she is highly motivated and dedicated for research work. Her research work focused in the fascinating field of Heterogeneous Photocatalysis, synthesis of eco-friendly titania nanoparticles and its application towards environmental remediation. She has joined in UGC Fellowship in Science for meritorious students (2011-2016) in Department of Chemistry, Anna University Chennai. She always took part actively in a number of critical and in depth scientific discussion. She has published seven research papers and communicated a few in the International Peer Reviewed Journals. She has presented her experimental results in many national and International conferences.

Bridging NGOs and the Hospitality Industry to Reduce Food and Plastics Wastes

Dr Sng Bee Bee
SDH Institute, Singapore

Abstract
The term 'green economy' refers to an economic approach that considers sustainable development, poverty alleviation and conservation of environment. Tourism is considered a key industry in this approach, constituting 9.5% of global GDP. Despite the key role that tourism plays in the Green Economy, it is faced with the following challenges: the extent and patterns of human consumption which includes extensive water consumption and damage to both marine and land biodiversity. Furthermore, there is a lack of recycling and waste management in airlines; airports; hotels; restaurants and bars. The Ministry of Environment and Water Resources (MEWR) in Singapore states that Singapore produces 703,200 tons of food wastes in 2013. The rest of the food wastes is incinerated. In addition, a study conducted by the Singapore Environment Council found that the population of Singapore uses at least 1.76 billion plastic items annually. The hospitality industry plays a vital role in reducing plastic and food wastes as it generates a lot of such wastes in terms of food preparation; food service; souvenirs and bottled water that it serves to guests.

Therefore, the objective of this research project was to evaluate how connections can be made between NGOs which are working on the issues of food and plastic wastes with the hospitality industry in Singapore. Semi-structured in-depth interviews were conducted with 5 people who are working in NGOs related to reducing food and plastic wastes and 3 staff working in hotels.

This research discovers that the knowledge and experiences of NGOs regarding reducing food and plastics wastes are invaluable for the hospitality industry. The hospitality industry can reduce food wastes by having an efficient inventory system to order food according to demand; distributing excess food to staff and needy and reducing plastic products. Furthermore, regulations need to be implemented by the government.

Biography
Dr SNG BEE BEE sits in the academic board of SDH Institute which is part of the Vatel Group. She is also currently an associate lecturer in Research Methodology and Academic Writing Skills in both local

and foreign universities in Singapore. In addition, she supervises trainee teachers with the National Institute of Education, Singapore, on a part-time basis. She graduated with a Doctorate in Education specializing in Education Management from the Leicester University, UK.; a Masters of Arts specializing in English Studies from National University of Singapore and a Bachelor of Arts from University of Queensland in Australia. Her research interests are: Sustainability, Educational Change, English Language Teaching and Religion and Social Media. Her publications include: 'The Construction of Communities in Social Media Sites', International Journal of Arts and Sciences, May 2014. Harvard University, Boston; 'Making sense of Educational Change - What do Teaching Staff Members Think?' (Paper), in Asia Pacific Conference of Education – Re-envisioning Education: Innovation and Diversity, Singapore, 2003; 'A Critical Discourse Analysis of Educational Mission Statement and Goals', (Paper), AILA 2002 Singapore Conference, 2002; 'Bridging Academic Assessment with Professional Expectations – A Study of Engineering Students' (Paper), in the Conference on New 'Literacies'- Educational Response to a Knowledge-based Society, Educational Research, National Institute of Education, Singapore, 2000, and 'Designing English Language Programmes in Support of Development Projects In Third-World Countries', (Workshop) in RELC Seminar, Singapore, 1999.

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Mycelium Composites – Enabling Growing Structures with Tuneable Properties

Sabu John

Professor, RMIT University, Melbourne, Australia

Abstract

This presentation will explore the burgeoning field of bio-degradable composites, incorporating the use of mycelium based bio-composites as an environmentally friendly alternative to synthetic polymers derived from non-renewable resources such as petroleum and natural gas. Mycelium is the vegetative growth of filamentous fungi and comprises a network of micro-filaments known as hyphae. Hyphae digest and bond to the surfaces of organic material under ambient conditions without additional energy input, thereby acting as natural self-assembling glue. Mycelium has several main advantages over traditional synthetic polymers including low density, low cost, a less energy intensive manufacturing process, and perhaps most importantly, biodegradability. The wide variety of substrates on which mycelium grows combined with improvements in processing techniques allows manufacturers to customize the material to meet specific requirements (e.g. impact resistance, thermal and acoustic insulation, etc.) for macro- and micro-scale production. A brief introduction to the biotechnology aspect of this project will be made, especially with growth kinetics of the mycelium under various environmental conditions and in several organic substrates to enhance the mycelium composite's mechanical performance, specifically for strength, toughness and fire-resistance.

Biography

Sabu John is Professor of Smart materials and Systems in the School of Engineering at RMIT University in Melbourne, Australia. He has a Master of Science in Advanced Applied Mechanics and a Ph.D. in Advanced Materials in Mechanical Engineering from Imperial College, London, United Kingdom. He also has a MBA from RMIT University. He has over 180 published articles in journals and peer-reviewed conferences and has been involved in 3 patents, including one on the world's first Cricket bat with active vibration control. His recent non-sporting body-related research interests include: advanced composite materials, vibration control in smart structures, embedded communication devices in composite structures, structural health monitoring of structures, wireless sensor technology, energy scavenging using piezo-based transducers and more recently, Bio-composites.

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Pseudo Value Added Tax Incentives to Encourage Solar Energy Development in Indonesia

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Universitas Indonesia
Milla S Setyowati
Universitas Indonesia
Indriani
Universitas Indonesia

Abstract

The objective of this paper is to evaluate policy on Value Added Tax (VAT) incentives available to solar energy in Indonesia. The research method used is a qualitative approach. The data are collected based on documentary / library research, field research (observation & in-depth interview) and Focus Group Discussion. The problem of high prices of domestic solar panel components compared to imported products from China and Japan, is a major problem for the solar energy sector. Considering there is no VAT incentive on import and / or domestic delivery of the components of the solar panel raw materials. The Government only provides VAT exemption incentives on the import and / or domestic delivery of panel machinery through Government Regulation No. 81 of 2015. This incentive is less in demand by solar panel products. The research shows that it needs to establish the comprehensive framework of VAT regulation specific to solar energy industry. For practical aspect, the government also needs to formulate the implementation of the regulation as legal bases of VAT incentives with the clear scope, control mechanism and institution coordinating.

Keywords:

Renewable Energy, Solar Panel, Value Added Tax, Tax Incentive.

Biography

TITI MUSWATI PUTRANTI is a lecturer of Fiscal Administrative Science at the Faculty of Administrative Science, Universitas Indonesia (FIA UI). Completed the doctoral program in public science at the Faculty of Social and Political Sciences, Universitas Indonesia (FISIP UI) with her dissertation entitled "Reconstruction of Tax Incentive Policy towards Low Carbon Industry". Currently serving as Director of Tax Centre of Universitas Indonesia. Address: 2nd Floor, B Building, Faculty of Social and Political Sciences, Universitas Indonesia, Depok, Indonesia.

The Factors Affecting Green Consumer Behavior: Evidence from Malang, East Java, Indonesia

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Department of Agribusiness, Faculty of Agriculture and Animal Husbandry, University of Muhammadiyah Malang, Jalan Raya Tlogomas 246, Malang, Indonesia.

Bambang Sugiyono Agus Purwono
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Abstract
Green consumers recognize the importance of buying food that uses the environmentally friendly packaging. The concept of marketing also pays attention to the green consumer behavior. Food products with green packaging are sold more expensive, so that consumers' willingness to pay (WTP) is needed. The research purpose is to identify and analyze the influence of WTP, demographic, psychographic, and religiosity factors toward the consumer behavior in buying food with the green packaging and toward disposal behavior of the food packaging. The study was conducted in Malang, with samples from the academic community at UMM, as well as urban communities in Malang City and rural communities in Malang Regency. Primary data was obtained by interview and questionnaire filling. Data analysis used the Structural Equation Model which was supported with WarpPLS software. The results show that three latent variables namely WTP, psychographic and religiosity affect green buying behavior. Demographic factors also affect green buying behavior with a lower level of significance. The factors influencing disposal behavior are religiosity and psychography. Religiosity affects green buying behavior and disposal behavior with highest path coefficient and significance. Recommendation is given to some parties. The agribusiness has to replace the food packaging with the green one, and step by step eliminate usage of plastic packaging. The stakeholders of environment should educate people not only about disposal behavior but also about green buying behavior. Specifically, the religious organizations are hoped to give environmental awareness as part of religious activities.

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Keywords:
Green consumer, religiosity, willingness to pay.

Biography
Associate Professor Dr. Ir. Rahayu Relawati, MM born in Banyumas - Indonesia, Januaty 1st, 1965. Lecturer in University of Muhammadiyah Malang, East Java – Indonesia. Under Graduate Degree in Department of Socio-Economic of Agriculture, University of Jenderal Soedirman, Purwokerto, Indonesia (1989). Master Degree in Management, University of Muhammadiyah Malang, Indonesia (1997). PhD Degree in Agribusiness Management, Universitas Gadjah Mada, Yogyakarta, Indonesia (2018).

As a speaker in numerous national and international conferences, such as: University Consortium Graduate Forum in Kuala Lumpur, Malaysia (2015), 4th International Conference the Community Development in ASEAN (AMCA) in Cambodia (2017), Food, Agriculture and Natural Resources (FANRes) in Yogyakarta, Indonesia (2018), and National Seminar of Research Results in Yogyakarta, Indonesia (2019).

Strategy of Simulation Effect between the Variation of NACA Types and Variation of the Wind Speed Toward the Power Generated by Vertical Axis Wind Turbine's Model

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Sudarmadji
Associate Professor, Mechanical Engineering Department, Politeknik Negeri Malang – Indonesia

Saifullah
Associate Professor, Faculty of Law, Universitas Islam Negeri Maulana Malik Ibrahim, Malang – Indonesia

Ali Nasith
Faculaty of Education, Universitas Islam Negeri Maulana Malik Ibrahim, Malang - Indonesia

Abstract

The demand of Indonesian energy is growing faster and the non-renewable energy has decreased very rapidly, and the gap between demand and supply of energy is widened. At the present time, the government tries to shift and to look for an alternative energy to prevent future scarcity of energy resources. One of the alternative energy is to utilize wind energy and the characteristics of wind energy is no pollution, cheaper, easier to produce and maintain, and easier to find it. The wind energy potential in Indonesia is more than 90 GB and the production electric energy using wind energy has not been explored optimally. The research objective is to analyze and to compare the effect of the variation of the NACA type and the variation of the wind speed toward the electric power generated by wind turbine. The independepent variables are variation of NACA type series 4412 and 6412 and the variation of the wind speed is 3.0 till 6.0 meter per second and the electric power as the dependent variable. This research applies quantitative method is experimental design using one way classification and data simulation. The finding of this research reveals is the null hypothesis is rejected, it means that is a difference effect between variation of NACA type and the variation of wind speed toward the electric power generated by wind turbine at the level of significantly of 5%.

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Keywords:
wind turbine, wind energy, NACA, strategic.

Biography
Associate Professor Dr. Ir. Bambang Sugiyono Agus Purwono, MSc born in Maospati, Indonesia, 5th March 1954. A lecturer in Mechanical Engineering Department - State Polytechnic of Malang, Indonesia. Bachelor of Science in Mechanical Engineering, Faculty of Technology, Brawijaya University, Malang, Indonesia (1982). Master degree in Industrial Engineering, ITB, Bandung, Indonesia (1988). Doctor in Management Science, Faculty of Economics and Business, Brawijaya University, Malang, Indonesia (2011).

Textbooks have already published are Strategic Planning, Production Management, Heat Transfer, Maintenance Management, Entrepreneur and Technopreneur, and Research Methodology.

Also as a speaker in numerous international conferences and national seminars about Entrepreneurship and Cooperative, Balance Scorecard, SWOT Analysis, Strategic management, and Renewable Energy, Wind Turbine, Plastic Waste, Quality Control, Water Treatment Plants, and Micro Hydro Power Plants in Malang, Bali, Yogyakarta, Bandung, Jakarta - Indonesia, Timor Leste, Melbourne - Australia, Hong Kong Polytechnics University - Hong Kong (2013), National Institute of Technology, Tiruchirappalli, India (2014), Bangkok- Thailand (2017), Manila – Philippines (2018), Kuala Lumpur – Malaysia (2018, 2019), and Beijing (2019). As a Keynote speaker at 4th Go Green Summit International Conference at Kuala Lumpur, Malaysia (2018).

As a conference chair in International Conference on Smart Green Technology in Malang – Indonesia (August 27-28, 2018), 4th Go Green Summit International Conference at Kuala Lumpur, Malaysia (December 29-30, 2018), and Climate Change International Conference in Beijing (April 11, 2019).

HIV AIDS advocacy in Bangkok – Thailand (1998) and Wuppertal – German (2002) as a participants are sponsored by UN AIDS.

A Perceived Sustainability Framework for River Tourism

Ma. Flora C. Collado

West Visayas State University, Lapaz Iloilo City, Philippines

Abstract

Iloilo River has played a fundamental role in the lives, history, culture and civilization of the Ilonggos for thousands of years. The study was conducted during November 2018 to March 2019 at Iloilo City aimed to find out the perceived sustainability of river tourism when rated by respondents on following aspects; economic viability, socio-cultural equity, and environmental conservation. The respondents were 182 purposively selected: tourists, residents, business sector, tourism officers, environmentalists, and local government officers. The data gathered were analyzed using rank, frequency count, percentage, standard deviation and mean. The findings of the study revealed that the perceived sustainability of river tourism in Iloilo in general were "sustainable". As to economic viability revealed "very high potential" in terms of socio-cultural equity reflected to have a "great extent" and in the environmental conservation the river tourism were "sustainable" as rated by respondents. When rank, the economic viability, "create income opportunity for residents" was the indicator that was favored much by respondents. Socio-cultural equity, "increase self-esteem of host and tourist" viewed to have the highest impact. Environmental conservation appeared to "promote a reduce, reuse, recycle mentality" rank as the highest.

Biography

Ma. Flora C. Collado is currently the Research Coordinator and a Faculty of the College of Business and Management at West Visayas State University. Collado received her DBM-HM (Hospitality Management) and MSBA-HRM (Hotel and Restaurant Management) from Philippine Womens University Manila, Philippines, 2017 and 2008. Her research interests include Gastronomy innovations, Hotel and Restaurant issues, Tourism and Hospitality Industry studies.

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Reflections on Conservation of Nature with Special Emphasis on Film Avatar

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Athulya Krishnan E
Integrated MA English, Dept of English, Amrita School of Arts and Sciences, Amrita Vishwa Vidyapeetham, Kollam, India

Abstract

Life on earth is a bliss of nature.Human beings are the gift of nature and thus nature carried us on her .Nowadays nature has become creator as well as destroyer .From time immemorial we find nature protecting man but man inturn mutilates mother nature .Humans have really done a number on nature –we created a lot with industrialization,creation of toxic chemicals ,garbage dumped in water bodies ,plastics filled environmental space ,and giant urban spaces ate prosperous parts of nature. Man is gifted with a paradise but he with his unbriddled and aggressive greed is incurring all havoc to this intrinsic and innocent nature and thus digging his own sepulcure .Man who is considered to be the roof and crown of all creations who achieved great scientific and technological advancements and achivements is trying to impose his supremacy and superiority on nature and his fellow beings. This in turn leads to the denial of legitimate right to all other creatures in nature and also leads to the unscrupulous exploitation of nature and finally its destruction.Not withstandig all his wisdom is striking at the very root of his existence oblivious of his total unhilation from the face of the globe. . Humans can live well here if everything is green,beautiful,water is flowing ,air is pure etc .So we must be conscious about everything that is alive a tree, a plant ,a blade of grass and so on .This paper tries to potray how nature rearranges itself when we arrange it in our own way and it could be clearly visible through the film Avatar by James Cameron .It is his cry against the war and violence that makes Avatar an eloquent testimonial to the present.The film isn't a visual extravaganza alone,it has a meaningful story .It could end up making this magnum opus a modern –day parable for pacifists, climatologists, humanists, globalists. At the same time paper tries to put forward a solution for violences against nature and it throws light on the inevitable truth that all the might and acquired knowlegde of man may finally have to bow down before the irresistable power of nature.

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Adsorption of Indium (III) Ions from Aqueous Solution Using Chitosan-Coated Bentonite Beads: Batch and Fixed-Bed Column Studies

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Abstract

The removal of indium (III) ions from aqueous solution was carried out by batch adsorption and fixed bed column techniques to evaluate the potential suitability of chitosan-coated bentonite (CCB) beads as an adsorbent. For the batch study, percentage removal and adsorption capacity of indium (III) ions were examined as a function of solution pH, initial concentration, adsorbent dosage and temperature. The experimental data were fitted with several adsorption isotherm models to describe the adsorption process of indium (III) ions on CCB beads and the best interpretation for equilibrium

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data was given by Langmuir isotherm. The mean energy (E) value was found in the range of 1-8 kJ/mol, indicating that the type of sorption of indium ions onto CCB is essentially physical. Thermodynamic parameters, including Gibbs free energy, enthalpy, and entropy indicated that the indium (III) ions adsorption onto CCB was feasible, spontaneous and endothermic in the temperature range of 278-318K. The kinetics was evaluated utilizing the pseudo-first order and pseudo-second order model. The adsorption kinetics followed the mechanism of pseudo-second order with correlation coefficient greater than 0.99 evidencing chemical sorption as the rate-limiting step.

Breakthrough curves were plotted for the adsorption of indium (III) ions using fixed-bed column operation by varying the bed height, flow rate and initial metal ion concentration. Results showed that the breakthrough time increased with increased bed height and decreased metal influent concentration, but decreased with an increase in flow rate. Moreover, adsorption data were fitted to three well-established fixed-bed adsorption models, namely, BDST, Thomas and Yoon-Nelson models. The model constants were also evaluated to help ascertain the practical applicability of the adsorbent. On the basis of the results, CCB has a high potential as a low-cost adsorbent in permeable reactive barrier for the recovery of heavy metals in contaminated groundwater plumes.

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Waste to Energy (WTE) Plants in India – A Scientific & Economic Analysis W.R.T Their Need, Feasibility, Safety, Efficiency & Results

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Rajesh Kumar
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Abstract
Huge piles of garbage are a common sight today in India. Waste thrown is omnipresent in the form of rotting piles that dot our landscape, foul our rivers and pollute our wells and lakes. Capital city Delhi itself has 4 to 5 landfills which overshot their limit a decade ago and are now huge mountains of garbage in the middle of the city.

In metro cities in India, an individual produces an average of 0.8 kg/ waste/ person daily. The total municipal solid waste (MSW) generated in urban India has been estimated at 68.8 million tons per year (TPY) (0.573 million metric tonnes per day (MMT/d) in the year 2008). The average collection efficiency of MSW ranges from 22% to 60%. This MSW excludes the industrial and bio-medical waste which is highly toxic if not treated properly and forms a huge part of the total solid waste generated.

The simplest method for waste management is segregation, treatment and recycling. But with a majority of the population who doesn't even care to throw the trash in bins, let alone using separate bins, segregation is one of the biggest challenges at collection centers and it consumes a lot of time and resources.

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In such a grim situation, WTE plants sound like an excellent idea. The solid waste does not need segregation and all of it can be incinerated to give electricity and oil which is a good resource to have in excess. Sounds good right?

The government seems to have bought this logic as well and has big plans to set up WTE plants. For instance, Niti Aayog set a target of constructing 800 megawatt (MW) of WTE plants by 2018–19 and 40 of them are under construction as of now.

Despite all these plans and benefits, WTE plants haven't taken off like they should have in India. 7 plants have shut down in the last 2 decades. They have huge safety risks and a number of environmental violations. Moreover, the electricity produced by them is too expensive. WTE plants have a role, but not in the way our planners are envisaging. They should be the last resort to manage high-calorific-value waste that cannot be managed by other technologies. Is there a need to rethink or improve the WTE plans in a country like India? Will they be able to achieve their main goal i.e improving the excess solid waste situation while being self-sustainable and not harming the environment. I have researched & analyzed various factors and will suggest improvements for WTEs in India in this presentation.

Biography

Adarsh Chawla is a 2nd year Environmental Engineering student at Delhi Technological University in New Delhi, India. He graduated his high school from Birla Vidya Niketan in 2018 with 94.75% aggregate in Physics, Chemistry, Math and Computer Science. His interests are Machine Learning and Data Science along with Environmental research & management and he persues them hand in hand

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The Effect of Fuel Variation on Sensor Accuracy of Portable Gas Analyzer Mq-2 for 1500 CC Engine

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Abstract
Motor vehicles continue to increase in Indonesia from year to year. The emissions of exhaust gases are also increasing, so that hazard substances contained in exhaust emissions can endanger human health. One of the hazard substances contained in exhaust emissions is hydrocarbon gas which is a fuel compound that is not burned out in the combustion process. This hydrocarbon emission is methane gas which can cause leukemia and cancer. The purpose of making the tool is in order not only high class workshop which has exhaust gas analyzer but also the lower class workshop has exhaust gas analyzer. Making of portable gas analyzer is very advantages because the cost to make is relatively cheaper with the quality of the sensor readings are quite good. The purpose of the study is to analyze the effect of fuel variation on the result of reading of MQ-2 sensor portable gas analyzer and to determine the percentage of MQ-2 sensor accuracy on portable gas analyzer in reading hydrocarbon gas. The research method is quantitative approach using two way classification. The data processing method used to make decisions.and to analyze the difference result of hydrocarbon gas readings on portable gas analyzer with exhaust gas analyzer used as reference. The independent variables used or fuel variation are pertalite, pertamax, pertamax plus and engine rotation idle up to 5000 rpm. The results of the study show that there is an effect of fuel variation on the readings of the MQ-2 sensor

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and the accuracy of the MQ-2 portable gas analyzer in reading the hydrocarbon exhaust emissions more than 96%.

Keywords
Portable Gas Analyzer, Exhaust Gas Emission, Hydrocarbon, Idle

Biography
Mira Esculenta Martawati ST., MT born in Malang, Indonesia, 4th July 1979. A lecturer in Automotive Electronic Mechanical Engineering Department - State Polytechnic of Malang, Indonesia. Bachelor of Science in Electronic Engineering, Brawijaya University, Malang, Indonesia (2004). Master degree in Electronic, Brawijaya University, Malang, Indonesia (2008). As a speaker in the First Annual Advanced Technology, Applied Science, and Engineering Conference, Malang – Indonesia (ATASEC 2019).

Synthesis, Growth, Characterization and Applications (Antimicrobial and Optical) of Tertiary Butyl Ammonium Picrate (TBAP)

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Abstract

The tertiary butylammonium picrate(TBAP) a synthesized effective novel organic material for nonlinear optical (NLO) and antimicrobial applications. DODAP material was grown by slow evaporation solution growth method at room temperature. The functional groups present on TBAP were observed by FTIR technique. The crystal system and lattice parameters were identified by single crystal XRD analysis the grown material crystallizes in triclinic system with Pī space group. Different types of protons and carbons present in TBAP with various chemical environments were studied by 1H and 13C NMR spectroscopy. The optical properties of the crystal were studied by UV-vis-NIR spectroscopy. The optical bandgap of TBAP was found as 2.54eV. The TG-DTA study confirmed that DODAP was thermally stable at 203.1^{o}C. The dielectric nature of crystal was conceded out at various temperatures in the frequency range of 50Hz to 5MHz. The Second Harmonic Generation (SHG) of the crystal was verified to confirm the nonlinear optical property. Antimicrobial studies was also been studied. Crystallographic data of TBAP has been deposited in the Cambridge Crystallographic Data Centre [CCDC No. 1009718].

Biography

I am Dr.S.Suguna, did my PhD from Loyola College one of the best institution in India, my mentor is Dr.B.Jeyaraj was a former Principal of this College and his research career from Boston University London.. Synthesis more than ten crystals by slow evaporation method and solve their structure by SXRD and studied their biological applications like antibacterial and antifungal activities. Attended more than ten national and international conferences all over India and presented my research works in seven conferences and won Best paper presenter award in International in Bhaba atomic research Centre, it is my milestone of my research career and made me confident zone. I have strong inclination towards pursuit of knowledge highly motivated and dedicated towards research and also teaching work.

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The Water Quality of the Wood River and the Effects of Land Use

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Abstract

The Wood River, located in the Old Wives Lake watershed in southern Saskatchewan, is an important water resource for people living in this area. Agriculture dominates land use in the basin, while the river receives waste water effluent from the town of Gravelbourg twice yearly. Both land usage in the basin and the dumping of municipal waste water effluent have the potential to degrade water quality in the river. To date however, the water quality of the Wood River has been relatively unstudied. The purpose of this study was threefold. First, to evaluate the water quality of the Wood River and compare it to similar river systems. Then, to evaluate the effects of nutrients on the pelagic phytoplankton in the river to determine the biological responsiveness to nutrient additions which might occur as a result of agricultural land use and municipal waste water effluent. Lastly to propose mitigative measures that could help to reduce the potential threat of increased nutrients.

To determine the effect that agricultural land use and municipal waste water effluent was having on river water quality, nutrient and chlorophyll a (a measure of algal biomass) levels in the river were examined. Five sites, having different land use patterns, were chosen for this purpose. These included a reference site at a regional park not directly affected by agriculture, a site where agricultural land use dominated, a site utilized by cattle, a reservoir within the river system used for drinking water and surrounded by agriculture and finally, a site just downstream from where Gravelbourg's municipal waste is released.

Nitrogen (N) and phosphorus (P) levels were high in the Wood River when compared to similar systems. The mean TP concentration for the Wood River over the two years of this study was 474 µg/L (± 246 STD) while the mean ammonia concentration was 223 µg/L (± 993 STD). These concentrations exceeded water quality guidelines. Algal biomass and nutrient concentrations were higher at sites where nonpoint source pollution from agriculture or point source pollution from sewage effluents was present. Nutrient enrichment bioassays also indicated that the algal population in the Wood River was responsive to additions of nutrients, therefore, increases in nutrients will increase algal biomass in the river. The bioassays also revealed that at the sites where agriculture and municipal waste water were present, the algal population was N limited indicating an excess of P in the river. The municipal point source of pollution had a great effect on algal biomass and these effects lasted for about three weeks after the release. Different land use patterns and municipal waste water effluent were potentially having a negative effect on the water quality of the Wood River.

An examination of mitigative strategies available in the Old Wives Lake area revealed that land management tools including the implementation of soil conservation practices and riparian management could be useful in protecting the Wood River from degradation. Neither soil conservation practices nor riparian management are used extensively in the watershed, and both of these practices could help improve the water quality of the Wood River.

Keywords:
water quality, land use, nutrients, agriculture, municipal waste water

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Simulation of the Wind Turbine's Model

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Yohannes Yahya Welim
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Abstract

The research objective is to analyze and to compare the effect of the variation of the NACA type and variation of wind speed toward the electric power generated by wind turbine. The variation of NACA type are 4412 and 6412 and the variation of the wind speed is 3.0 till 6.0 meter per second. The advantages of the wind turbine's implementation are green technology, the operation cost is relatively cheaper, easier to produce, operate and maintain, and the waste is lowest. The research variables are variation of the NACA type and variation of wind speed as independent variables, and the electric power as dependent variable. This research applies quantitative method is experimental design using two way classification and data simulation. The finding of this research reveals is the null hypothesis is rejected, it means that is a difference effect between variation of NACA type and variation of wind speed to the electric power generated by wind turbine significantly at the level of 5%.

Keywords:

wind turbine, wind energy, NACA, Model

Biography

Dr. H. Ali Nasith, MSi, M Pd born in Jombang – Indonesia, July 5th, 1964. Lecturer in State Islamic University of Maulana Malik Ibrahim, Malang - Indonesia. Bachelor of arts degree in Indonesian Letters Department - Faculty of Teaching and Training, Malang Islamic University (UNISMA), Malang, Indonesia. Master degree in Public Policy – University of Merdeka, Malang, Indonesia (2002). Master degree in Islamic Science, Darul Ulum University, Jombang, Indonesia (2011). Ph D degree in Social Sciences, University of Merdeka, Malang, Indonesia (2013).

As a speaker in numerous National and International seminars, such as: International Conference on Islamic Education in Malang, Indonesia (2017), Accounting Skill and English Competition (ASEC) Java-Bali, Indonesia (2018). As a presenter at 4th Go Green Summit International Conference at Kuala Lumpur, Malaysia (2018) and International Conference on Climate Change in Beijing, China (2019).

"TITAN MK. II: Earthquake Simulation Table" - Development of an Earthquake Simulation Table for Testing and Recording of Damping Motions of High Rise Building Models Undergone Buckingham Pi Theorem

Emmanuel P. Balanon
Ultra Construction Innovators / Philippine Institute of Civil Engineers

Abstract

The study focuses on the development of an Earthquake Simulation Table for testing and recording of damping motion of high rise infrastructure models in response to different earthquake magnitude. The earthquake simulation table gathers information on its test subjects by the use of accelerometer sensors to calculate its damping motion and base shears which will be directly inputted to a computer. The test subjects used for the experimentation process of the earthquake simulation table are all high rise infrastructures which will be demonstrated with towers constructed with different materials undergone Buckingham Pi theorem to replicate the most accurate results of an actual structure's excitation during an earthquake. The use of the 2015 National Building Code of the Philippines is widely involved on this study in which it's the basis of the buildings standards of the infrastructures that this study targets to base upon, which are the infrastructures affected by the west valley fault. Another objective of the study is to produce a structural earthquake simulation table in which it can feature the accuracy and conventionality to produce more studies to develop earthquake resistance technologies to the infrastructures in the Philippines- which is under the pacific ring of fire that is well known for its vulnerability to different kind of seismic activities.

Biography

Emmanuel Balanon, is a Filipino Civil Engineer specializes on Earthquake Engineering. His sole priority in engineering design is the mitigation of structures to earthquakes, constructing calamity proof and sustainable structures. Formerly, the head researcher for the Philippine Institute of Civil Engineers- HAU: Applied Science and Research Sector, he continues his earthquake engineering research works with ULTRA Construction Innovators along with different organizations with the same purpose.

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Remedy of Global Warming

Dr. Rashmi Verma

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Abstract

In this era, where industrialization is on a rise we require plantation for a better and greener planet earth, it's necessary to promote the practice of planting trees in large number. So that rising temperature, air pollution, water pollution, and even many diseases like Asthama, Allergy and many more. Neem trees gives air which is free from harmful allergens like bacteria, viruses, fungal spores etc. actually what happens the air passed through the neem tree it kills harmful Viruses, Bacteria and other deseases producing elements. Peepal trees give full of oxygen which is cool in nature and broad leaves of the tree gives day and night this cool air.

An annual affair, The World Environment Day has been observed since1974 on June 5 every year by the United Nations to bring about awareness among the masses. This year2019 theme was Beat the air pollution. China, India, Russia and many other nations they have not very good quality air not very good quality of water. Then the only remedy is planted more and more trees so that air as well as water is also cleaned side by side. Actually what happens the roots of high rise trees contains a microorganisms called Mycorriza – the property of this mycorriza is the heavy metals and minerals which are present in the soil it transfers to the plants which is helpful in growth of trees and automatically soil is free from unwanted minerals and metals so water is become clean from Arsenic, mercury, Zinc, Sodium, Potassium and many more.

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ClimaRenovable HONDURAS

"Let's make the Planet Green"

Cindy Gretel Rodriguez Mayorquin

Clima Renovable Honduras

Abstract

We can build a green world if all the people around the world that work in the green economy we join efforts, the impact would be impressive and positive, for people and the planet, teamwork is the best when you have the same vision. Our vision must be related with clean energy systems, smarter urban development: better urban planning and strategic infrastructure investment, sustainable land use, wise water management, a circular industrial economy: policies which encourage efficient use of materials (especially metals, petrochemicals and construction materials) could enhance global economic activity, as well as reduce waste and pollution.

In developing economies, the low-carbon transition provides an opportunity to leap-frog the inefficient and polluting models of the past, with falling costs of renewables and other technologies making it even cheaper. As a priority, all governments should establish zero-emission Energy Transition Plans, working with energy companies, trade unions, and civil society to ensure a just transition for workers and communities.

Biography

Cindy Gretel Rodríguez Mayorquín, civil engineer graduated from the Catholic University of Honduras and master's degree in Renewable Energy and Energy Efficiency from the Rey Juan Carlos University, Madrid, Spain. In 2008 she participated representing Honduras in the Second World Water and Climate Change Congress as a speaker in the city of Mérida, State of Yucatán, Mexico. The same year she was selected by the Embassy of Taiwan for representation in Honduras and the assistance to the course of Design of Structures for the Prevention of Danger in the NCREE study center in the city of Taipei, Taiwan. She speaks three foreign languages: English, French and Portuguese. It has been prepared at the Theodor-Heuss International Leaders Academy, in Gummersbach, Germany on issues of political communication on social networks.

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Dominant's Factors in Service Quality Implementation

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Abstract

The number of poor people in Indonesian is about 27.76 million, it means the income is not exceed one dollar per day. The total population is about 261 million people (Indonesia's Statistics Agency/BPS, 2017). Another characteristic of poverty in Indonesia is that poverty in the rural areas is worse than in urban areas. Some of the poor people are orphans. The number of respondent is 26 people (12 young girls and 14 young boys), and the total orphans is 70 boys and 60 girls. Some of them live in The Al Kaaf Orphanage (Small) Foundation (TAKOSF) is baby since the age two weeks. They live in a rural area (1.4 ha) in Malang municipal. The objective of this research is to analysis the dominants' factors in service quality implementation in TAKOSF. The research variables are tangibles, responsiveness, reliability, assurance, and empathy. The research approach using Principles Components Analysis (PCA). The result of this research are the first principle component is trustworthiness supported by the variables of tangibles, responsiveness, and reliability, and the second principle component is physical approach supported by the variables of assurance, and empathy. The total variance explained is 69,077%.

Keywords

orphan, service quality, trustworthiness, physical approach.

Biography

Dr. H. Ali Nasith, MSi, M Pd born in Jombang – Indonesia, July 5th, 1964. Lecturer in State Islamic University of Maulana Malik Ibrahim, Malang - Indonesia. Bachelor of arts degree in Indonesian Letters Department - Faculty of Teaching and Training, Malang Islamic University (UNISMA), Malang, Indonesia. Master degree in Public Policy – University of Merdeka, Malang, Indonesia (2002). Master degree in Islamic Science, Darul Ulum University, Jombang, Indonesia (2011). Ph D degree in Social Sciences, University of Merdeka, Malang, Indonesia (2013).

As a speaker in numerous National and International seminars, such as: International Conference on Islamic Education in Malang, Indonesia (2017), Accounting Skill and English Competition (ASEC) Java-Bali, Indonesia (2018). As a presenter at 4th Go Green Summit International Conference at Kuala Lumpur, Malaysia (2018) and International Conference on Climate Change in Beijing, China (2019).

UNIVERSITAS BUDI LUHUR

The Effect of the Capital Structure and Good Corporate Governance toward the Financial Performance of the Manufacturers' Value

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Prihat Assih
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Abstract
Capital structure is very important for a company because it is used for company operations. The increasing of the company's capital will increase the company profit and the implementation of the Good Corporate Governance (GCG) will motivate the employees. The impact of this factors will increase the shares' value. The Financial Performance is determined by the Capital Structure and GCG. The purpose of this research is to analyze the effect of the Capital Structure and GCG toward the Financial Performance of the Manufacturers' Value. The research method uses multiple regression analysis with null hypothesis: there is no effect of the Capital Structure and GCG to the Financial Performance of the Manufacturers' Value. The research result rejected the null hypothesis, it means there is an effect of Capital Structure and GCG to the Financial Performance of the Manufacturers' Value and increasing the Financial Performance.

Keywords
Capital structure, GCG, Financial Performance, Share's Value.

Biography
Ir. Yohannes Yahya Welim, MM born in Palembang, Indonesia, 5th August 1962. Lecturer in Faculty of Information Technology,Information System Study Program, Budi Luhur University, Jakarta,

Indonesia. Bachelor of Science in Informatic Management and Computer, STMIK, Budi Luhur Jakarta, Indonesia (1991). Master degree in Finance Management, STIMA IMMI, Jakarta, Indonesia (2001). As a speaker in numerous international conferences and national seminars about economic, financial management, and informatic management.

UNIVERSITAS BUDI LUHUR

The Effect of the Employees' Discipline and Employees' Satisfaction toward Employees' Loyalty in Pt. Bni Life Indonesia

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Teja Endra Eng Tju

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Abstract

The employee's discipline is needed in every the company, with discipline will make the work quickly completed and can be more thorough, and can make the employees satisfied. Employee loyalty is created automatically if work discipline is carried out well. Job satisfaction makes employees loyal to the company. The result of the employees' loyalty increase the company's profit and the value of shares rise. Companies can increase salary, incentive, and the company development, also able to compete with other companies. The purpose of this study is to analyze and to determine employees' discipline, employee's satisfaction and employees' loyalty. The research method used a multiple regression analysis. The research results is employee's loyalty iscreased proportionally the increasing of the employee's discipline and employees' satisfaction.

Keywords

Discipline, Satisfaction, Loyalty, Employees.

Biography

Ir. Yohannes Yahya Welim, MM born in Palembang, Indonesia, 5th August 1962. Lecturer in Faculty of Information Technology,Information System Study Program, Budi Luhur University, Jakarta, Indonesia. Bachelor of Science in Informatic Management and Computer, STMIK, Budi Luhur Jakarta, Indonesia (1991). Master degree in Finance Management, STIMA IMMI, Jakarta, Indonesia (2001). As a speaker in numerous international conferences and national seminars about economic, financial management, and informatic management.

Human Resources Development Factors toward the Employees' Performance at the Local Secretariat Office of Malang City

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Bambang Sugiyono Agus Purwono
Mechanical Engineering Department, Politeknik Negeri Malang - Indonesia

Abstract

This research tries to analyze the influence of Human Resources Development (HRD) which comprises of training, education, and building up the employees' performance at the local Secretariat Office of Malang City. The objectives of research are, first, to analyze the influence of HRD factors that comprise of training, education, and building up the employee toward their performance at the local Secretariat Office of Malang City. Second, to analyze the most dominant factor of the HRD toward the employees' performance, in which the analysis will be conducted to all employees, both male and female personnel in order to find out the different dominancy of influence between men and women. The results of the analysis shows that the influence of HRD variable is 58.2%. Analysis on the hypothesis testing for each gender shows that the influence of HRD variable is 58.2%. The analysis on the hypothesis testing for each gender shows the influence of HRD variable, such as training, education, and building up, toward the employees' performance of the male personnel is 0.374 (37.4 %). While the influence on the female personnel is 0.270 (27%).

Keywords

HRD, Education, Training, Building Up, Performance

Biography

Dr. Zainur Rozikin, MM, MPd born in Malang, 12th January, 1962. A Lecturer in Faculty of Political Science, Merdeka University of Malang, Indonesia. Bachelor of Science in Arabic Department, State University of Malang, Indonesia (1985). Master degree in Human Resource Department, Islamic University of Malang, Indonesia (2000). Doctor in Social Science Department, Merdeka University of Malang, Indonesia (2005).

Analysis of the Body Posture and the Risk of Musculoskeletal Disorder for Cleaning Service Workers Who Working At Height

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Abstract

Cleaning service workers' job is the type of job that requires physical strength in carrying out their duties, especially if the work area is at height, which can cause the risk of Musculoskeletal Disorder. The purpose of this study is to analyze the posture of the workers and provide a recommendation for the level of risk of developing musculoskeletal disorder when working at height. This research was conducted using the Rapid Upper Limb Assessment (RULA) method, starting with an analysis of upper body posture including: upper arm, forearm, wrist and hand rotation, then analyzing the body parts of the trunk and legs. The results of this study show that the body posture while working at height has a score of 7, which means it has a high level of musculoskeletal disorder risk. The conclusion of this study is that working at specific height has a high level of musculoskeletal disorder risk, and the risk can be reduced by providing ergonomics assistive devices.

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Keywords
RULA, Musculoskeletal Disorder, Cleaning Service Workers, Height.

Biography
Associate Professor Dr. Ir. Julianus Hutabarat, MSIE born in Surabaya, Indonesia, 16th July 1961. A lecturer in Industrial Engineering Department – National Institute of Technology - Malang, Indonesia. Master degree in Industrial Engineering, ITB, Bandung, Indonesia (1991). Doctor degree in Mechanical Engineering, Faculty of Technology, Brawijaya University, Malang, Indonesia (2014). Focus research in Ergonomics, and Production System. As a speaker in 4th Go Green Summit International Conference in Kuala Lumpur, Malaysia (2018).

Field Performance of Wheat Varieties under Timely and Late Sown Conditions under Staggering Sowing Time and Variable Irrigation Regimes

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Water Technology Centre, ICAR-Indian Agricultural Research Institute, New Delhi, India.

Abstract

With the rise in temperature during reproductive phase and moisture stress, winter wheat yields are likely to decrease because of limited plant growth, higher rate of night respiration, higher spikelet sterility or number of grains per spike and restricted embryo development thereby reducing grain number. Crop management practices play a pivotal role in minimizing adverse effects of terminal heat stress on wheat production. Amongst various agronomic management practices, adjusting sowing date, crop cultivars and irrigation scheduling have been realized to be simple yet powerful, implementable and eco-friendly mitigation strategies to sustain yields under elevated temperature conditions. Taking into account, large variability in wheat production in space and time, a study was conducted to identify the suitable wheat varieties under both early and late planting with suitable irrigation schedule for minimizing terminal heat stress effect and thereby improving wheat production. Experiments were conducted at research farms of Indian Agricultural Research Institute, New Delhi, India, separately for timely and late sown conditions with suitable varieties with staggering dates of sowing from 1st November to 30th November in case of timely sown and from 1st December to 31st December for late sown condition. The irrigation schedule followed for both the experiments were 100% of ETc (evapotranspiration of crop), 80% of ETc and 60% of ETc. Results of the timely sown experiment indicated that 1st November sowing resulted in higher grain yield followed by 10th November. However, delay in sowing thereafter resulted in gradual decrease in yield and the maximum reduction was noticed under 30th November sowing. Amongst the varieties, HD3086 produced higher grain yield compared to other varieties. Irrigation applied based on 100% of ETc gave higher yield comparable to 80% of ETc but both were significantly higher than 60% of ETc. It was further observed that even liberal irrigation under 100% of ETc could not compensate the yield under delayed sowing suggesting that rise in temperature beyond January adversely affected the growth and development of crop as well as forced maturity resulting in significant reduction of yield attributing characters due to terminal heat stress. Similar observations were recorded under late sown experiment too. Planting on 1st December along with 100% ETc of irrigation schedule resulted in significantly higher grain yield as compared to other dates and irrigation regimes. Further, it was observed that reduction in yield under late sown conditions was significantly large than the timely sown conditions irrespective of the variety grown and irrigation schedule followed. Delayed sowing resulted in reducing crop growth period and forced maturity in turn led to significant deterioration in all the yield attributing characters and there by reduction in yield suggesting that terminal heat stress had greater impact on yield under late sown crop than timely sown due to temperature rise coinciding with reproductive phase of the crop.

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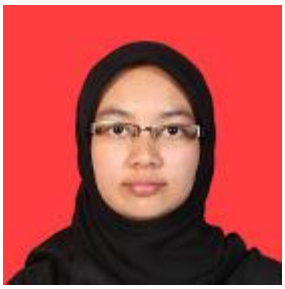

Agent of Change Involved in Treated Residual Sludge as Waste Management Component under Circular Economy

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Abstract

As much as 3,000,000 metric tonnes of treated residual sludge is produced by the sewage treatment plant each year and the amount is expected to increase to 7,000,000 metric tonnes by the year 2020. The process of urbanization and economic development aligned with population increase is the main factor for the yearly increase in treated residual sludge. The estimated cost for disposal of treated residual sludge is USD 0.33 billion per year since the year 1998 and the yearly increase in management cost will have a negative impact on the cost of managing solid waste in this country and environmental pollution. Treated residual sludge contains organic substances based on macro-nutrient, micro-nutrient and trace elements sources beneficial for plants. Using a change agent, applying treated residual sludge to agricultural land and landscape plants improves the quality of land structure and content of organic substance in the soil. Using a change agent encompasses the mixing and transformation processes. In scientific terminology, the process of mixing and transformation involves chemical decomposition process.This reaction occurs as a result of mixing unclean waste with a change agent comprising of natural substances and chemicals such as soil, natural minerals and clean plant waste materials to address the approach towards a circular economy.

Biography

Arina Sukor obtained both her Doctor of Philosophy (Ph.D) in Soil Fertility-Data Analysis and Master of Science (MSc.) in Soil Science from Colorado State Univerisity, Fort Collins, Colorado, United States of America (USA). She started her tertiary education in Universiti Putra Malaysia (UPM) in 2006 and obtained her Bachelor's degree in Agricultural Sciences. She started her first career as a Research Assistant for Advanced Agriecological Research Sdn. Bhd. (AARSB) from 2009 until 2010. In between that, she had served as a part-time Mathematics teacher for KUMON (Malaysia) and a part-time music teacher for Technics Music Academy (Malaysia). She started joining UPM as a Tutor in 2011 and officially serve as a Senior Lecturer at the Department of Land Management in August of 2016. She teaches Advanced Statistical Methods and specialises on data analysis in agricultural framework. Her research interest focuses on green projects, particularly involving waste management from agricultural context.

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Phenol Degradation by Advance Oxidation Process Using Electrochemical Pretreatment and Optimization Using Response Surface Methodology

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Abstract

Phenolic compounds present in various industrial wastewater are toxic in nature even at low concentrations. Phenol has been designated as a priority pollutant by US Environmental Protection agency (EPA) and the National Pollutant Release Inventory (NPRI) of Canada. Due to relative stability in environment, solubility in water, high toxicity and associated health problems, phenol removal from industrial wastewater is important. This work aims at degradation of phenol by advance oxidation process using electrochemical pretreatment. The parameters i.e. initial concentration of phenol, pH of the solution, voltage and reaction time, type of electrodes (iron and aluminum) were studied. In advance oxidation process UV/TiO2 combination is used for further degradation of phenol. The effect of parameters like initial phenol concentration, pH of solution, catalyst dose, and contact time for AOP were investigated. The optimum parameters obtained for aluminum electrodes were pH 7, voltage 30V and contact time 60 min. and for Iron electrodes pH 6, voltage 30V and contact time 60 min. The treatment done in photo catalytic reactor shows 99% degradation of phenol solution. Maximum degradation was obtained at optimum operating conditions of initial pH 9, catalyst dose 2 g/L and contact time 100 min.

Biography

Dr. N. K. Srivastava did his B. Tech. from HBTI Kanpur, M. Tech. in Chemical Engineering from IIT Roorkee and Ph. D. in Chemical Engineering from Dr. B. R. Ambedkar NIT Jalandhar. He joined the then Dr. B. R. Ambedkar REC Jalandhar as Lecturer in the year 1997. Presently, he is working as Associate Professor in the Department of Chemical Engineering at Dr. B. R. Ambedkar National Institute of Technology Jalandhar. He has 22 years of experience in teaching and research. His areas of interest are Wastewater Treatment, Air Pollution Control, Water Conservation and Management and New and Renewable Energy.

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Effect of Rib Pitch on Thermal and Thermo-Hydraulic Performance of Solar Air Heater Having 'S' Shape Ribs

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Abstract
Solar air heaters are the cheapest means of conversion of solar energy (Radiation) to heat energy of air as process heat. The artificial roughness on absorber plate of solar air heater increases the thermal performance of solar air heater; but it also increases the friction losses and hence the pumping power requirements. So to have the optimum performance thermo-hydraulic performance (Effective efficiency) is calculated, which simultaneously considers the thermal performance and friction penalty. In the present study the Rib roughness in 'S' shape is used and effect of relative roughness pitch (P/e) values of 4, 8, 12 and 16 has been analyzed using Computational Fluid Dynamics (CFD) on ANSYS 14.5. The results show that relative roughness pitch of 8 has the best performance upto Reynolds number value of 22300. For Reynolds number range (22300-25000), (25000-30000) and (30000-40000) relative roughness pitch values of 12, 16 and 4 have the maximum performance. Beyond Reynolds number value of 40000 smooth plate solar air heater has the maximum effective efficiency; compared to roughened solar air heater.

Biography
Dr. Khushmeet Kumar received his Doctor of Engineering (Ph.D.) degree from PEC University of Technology, Chandigarh, India. He is having more than 13 years of teaching Experience. His teaching and research interests include on Renewable Energy, Solar Energy Conversion, composite materials and Numerical Simulation using ANSYS. He has published more than 40 original research publications in reputed International Journals and Conferences. His research publications were cited in more than 100 research publications worldwide. He has guided 1 Doctoral scholar and 5 M. Tech

Scholars. He is an active member of Indian Society for Technical Education (ISTE) and International Society for Research & Development (ISRD).

Dr. Sourabh Khurana is an Associate professor of Mechanical Engineering at Om Sterling Global University. His research concentrates around hydro power, Solar and heat transfer. His research had resulted in over 15 presentations at international conferences and more than 30 international/national journal publications. He had guided one (01) Ph.D. Scholar and one (01) M.Tech. Scholar.

Cooling Technology Progression towards Environmentally Friendly System

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Abstract

Today, even with the imminent threat of the environmental and energy crisis, the cooling technology continues to generate hazardous gases that are released to our environment at a high cost. Chlorofluorocarbons (CFC) refrigerants that have been an indispensable ingredient in refrigeration and air conditioning equipment for the past 60 years have been proven to thin the ozone layer. Since the Montreal Protocol, research had escalated to explore alternative refrigerants systems that could reduce the dependence on non-sustainable substances and technologies. This paper discusses alternative chemicals such as hydrocarbons and natural refrigerants like carbon dioxide (CO2), ammonia (NH3), and propane (C3H8) for cooling system applications. The discussion includes the potential of the alternative refrigerant in the vapor-compression system and the technical challenge faced. This paper also presents the perspective of the green technology thermoacoustic refrigeration that environmentally-friendly systems as the innovative alternative in the clean cooling system.

Biography

Nor Atiqah Zolpakar is a senior lecturer in Faculty of Engineering Technology at Universiti Malaysia Pahang where she has been a faculty member since 2017. Nor Atiqah completed her Ph.D at Universiti Teknologi Malaysia. Her research interests lie in the area of optimization using multi-objective genetic algorithm and standing wave thermoacoustic refrigeration system.

Mohd Fuad Yasak is an industrial fellow in Faculty of Engineering Technology at Universiti Tun Hussein Onn Malaysia where he has been a faculty member since 2018. Mohd Fuad completed his

Master degree at Universiti Teknologi Malaysia in field of Industrial Engineering. He has experienced in mechanical engineering maintenance and sustainable assessment in manufacturing.

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Dominant Factor That Determines Teacher Job Satisfaction
(Case Study at Shalahuddin Senior High School of Malang City)

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Abstract
Job satisfaction is the impact of work performance. In the organizational context, employees are motivated to work to satisfy their needs. If the work he/she produces is rewarded accordingly, he/she will be satisfied with his/her work. If the rewards received do not match the burden and results of his/her work, there will be dissatisfaction in the employee. Another thing that causes dissatisfaction is a poor relationship between superiors and subordinates and inadequate working conditions as well as non-conducive relationships between employees. In this case the quality of Islamic educational institutions are demanded to be able to answer the problems and challenges as mentioned above so that the position of Islamic education is not always on the edge, which has not yet made a maximum contribution to the growing demands on the quality of human resources. The results of the discussion it was found that the dominant factor in creating employee job satisfaction is religiosity, namely religious values that are adhered to. The religious values are taught about the spirit of worship, so that an work ethic emerges. The work ethic develops the spirit of work based on inner sincerity. A work ethic that encourages a person to do his/her job based on the values of worship. With the enthusiasm of the work has an impact on the financial side, namely the concept of receiving/appreciating the fortune that is reasonably obtained, in the form of salary or other compensation. This is what drives the emergence of aspects of teacher job satisfaction. Other driving factors that also determine employee satisfaction are in the areas of compensation, praise, reward and sanctions. The compensation can be financial or interpersonal. This is understandable because in an organization that applies is a work system, where individuals put their life expectancy or rely on themselves there.

Keywords
religiosity, work, job satisfaction.

Biography

Associate Professor Dr. Zainur Rozikin, MM, MPd born in Malang, 12th January, 1962. A Lecturer in Faculty of Political Science, Merdeka University of Malang, Indonesia. Bachelor of Science in Arabic Department, State University of Malang, Indonesia (1985). Master degree in Human Resource Department, Islamic University of Malang, Indonesia (2000). PhD degree in Social Science Department, Merdeka University of Malang, Indonesia (2005). As a speaker in numerous international conferences and national seminars about Management and Social Sciences.

Analysis of the Effects of Situational Leadership Styles Employee's Performance at the Office of Education Malang city

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Abstract

This research is intended to find out the influence of elements in situational leadership style toward the performance of the education office Malang City on employees. The elements to be analysed include the instructive leadership behaviour (x1), consultative leadership behaviour (x2), participative leadership behaviour (x3), and delegacies leadership behaviour (x4), as independent variables, and the employee's performance (y) as dependent variable. The objectives of the research are to analyse the influence of the situational leadership style which consist of instructive leadership behaviour, consultative leadership behaviour, participative leadership behaviour, and delegacies leadership behaviour toward performance of the employees and two analysed the dominant influence leadership behaviour toward performance of the employees. The result of the research shows that the instructive leadership behaviour, consultative leadership behaviour, participative leadership behaviour, and delegacies leadership behaviour has no significant influences toward employee's performance, and the null hypothesis is rejected, it means the delegacies leadership behaviour has significant influence toward performance. Answering the second hypothesis found the regression coefficient delegacies leadership behaviour has significantly value at the level 5%. So the delegacies leadership behaviour has positive and significant value toward performance.

Keywords

Situational Leadership Style, Employee's Performance

Biography

Associate Professor Dr. Zainur Rozikin, MM, MPd born in Malang, 12th January, 1962. A Lecturer in Faculty of Political Science, Merdeka University of Malang, Indonesia. Bachelor of Science in Arabic

Department, State University of Malang, Indonesia (1985). Master degree in Human Resource Department, Islamic University of Malang, Indonesia (2000). PhD degree in Social Science Department, Merdeka University of Malang, Indonesia (2005). As a speaker in numerous international conferences and national seminars about management and social sciences.