CONFERENCE BOOK OF ABSTRACT PROCEEDING

COLUMN THE ME

Venue: The Aqueen Hotel Paya Lebar 33 Jalan Afifi, Singapore 409180 Date: November 01-02, 2018

ANS

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Book of Abstracts Proceedings

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CONFERENCE TRACKS

- Social and Community Studies
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- Agricultural sciences
- Interdisciplinary



CONFERENCE CHAIR MESSAGE

Dr. Vincent

"International Conference of Akademika Nusa Internasional" is a platform that thrives to support the worldwide scholarly community to analyze the role played by the multidisciplinary innovations for the betterment of human societies. It also encourages academicians, practitioners, scientists, and scholars from various disciplines to come together and share their ideas about how they can make all the disciplines interact in an innovative way and to sort out the way to minimize the effect of challenges faced by the society. All the research work presented in this conference is truly exceptional, promising, and effective. These researches are designed to target the challenges that are faced by various sub-domains of the social sciences, business and economics, applied sciences, engineering and technology, health and medical sciences.

I would like to thank our honorable scientific and review committee for giving their precious time to the review process covering the papers presented in this conference. I am also highly obliged to the participants for being a part of our efforts to promote knowledge sharing and learning. We as scholars make an integral part of the leading educated class of the society that is responsible for benefitting the society with their knowledge. Let's get over all sorts of discrimination and take a look at the wider picture. Let's work together for the welfare of humanity for making the world a harmonious place to live and making it flourish in every aspect. Stay blessed.

Thank you. Dr. Vincent Conference Chair Email: Conferencechair.ani@gmail.com



CONFERENCE SCHEDULE

ANISSH-2018 Venue: The Aqueen Hotel Paya Lebar 33 Jalan Afifi, Singapore 409180

Time: Registration & Kit Distribution (09:00 - 09:30 am) Day: Thursday Date: November 01, 2018

Venue: Room 1

	09:30 am - 09:40 am	Introduction of Participants
ſ	09:40 am - 09:50 am	Inauguration and Opening address
ſ	09:50 am - 10:00 am	Grand Networking Session

Tea/Coffee Break (10:00 - 10:30 am)



DAY 01 (November01, 2018)

Presentation Session (10:30 am - 12:30 pm)

Venue: Room 1 Session Chair: Dr. Vincent

Track A: Business, Economics, Social Sciences and Humanities

Paper ID	Manuscript Title	Presenter Name		
SABS-NOV-102	Competitiveness Analysis of Islands in Korea: Fo-	Kwangbae Lee		
	cusing on Visitors			
Track B: Engineering & Technology, Computer, Basic & Applied Sciences				
EAET-118-CEAS104	A Study on Bio-Drying Efficiency Of Dewatered	Jeongwonan		
	Sewage Sludge With Food Waste Compost			
EAET-118-CEAS105	The Characteristics of Hydrocarbons as a Hy-	Sun-Ju Lee		
	drothermal Carbonization			
EAET-118-CEAS106	Characteristics of Carbides Produced in Hy-	Hyeon Kyu An		
	drothermal Carbonization of Contaminated			
	Dredged Sediments			
EAET-118-CEAS107	A Study on the Efficiency of Energy Mixed	Byeong Oh Ko		
	Organic Wastes Biochar by Hydrothermal Car-			
	bonization (HTC)			
EAET-118-CEAS108	A Feasibility Study of the Trichloroethy-	Woori Cho		
	lene(TCE) Treatment by Potassium Ferrate			

Lunch Break & Closing Ceremony



Participants Registered as Listener Observer

The following Scholars/ practitioners who don't have any paper presentation, however they will attending the conference as delegates & observers.

Official ID: BEASM-118-ANI102A Danar Ardiansyah Badan Siber dan Sandi Negara (BSSN)/ National Cyber and Crypto Agency, Indonesia

Official ID: EAET-118-CEAS104A Jai-Young Lee University of Seoul

Official ID: BEASM-118-ANI103A Kriswardani Pamungkas Badan Siber dan Sandi Negara (BSSN)/ National Cyber and Crypto Agency, Indonesia



Conference Day 02 (November 02, 2018)

Second day of conference will be specified for touristy. Relevant expenses are borne by Individual him/herself.



TRACK A

ENGINEERING & TECHNOLOGY, COMPUTER, BASIC APPLIED SCIENCES



A Study on Bio-drying Efficiency of Dewatered Sewage Sludge with Food Waste Compost

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Keywords: Bio-drying, Sewage sludge, Food Waste Compost, Renewable Energy

Lately in korea, not only generation of sewage sludge but also treatment cost are increasing gradually. Drying process of sewage sludge is essential for conversion into solid-fuels. However, the most commonly used drying technique required excessive costs. Bulking agents such as sawdust are generally used in the drying process. but there is a drawback that they are required to be purchased at relatively high prices, also a lower rate of increasing temperature. In the case of food wastes, 83% of generated waste are dependent on feed conversion and composting. Furthermore, composting consumption is low due to low quality-reliability and negative recognition. For that reason, it constantly raisied that the issue of secondary environmental pollution such as leakage of leachate by unauthorized compost. Therefore, in this study, the bio-drying process was applied to the compost mixture of sewage sludge and food wastes to prevent secondary environmental pollution, to economically pretreat the sewage sludge. Through the process application, degradation of organic matter by aerobic microorganisms present in the mixture and drying of moisture by metabolic heat were expected. Batch test for optimum mixing ratio and optimum amount of aeration was performed for 7 days. As a result, the optimum mixing ratio was calculated as 6 : 4 (sewage sludge: food waste compost, w/w %) and the optimal air flow rate was calculated as 200 mL / min kg. In addition, as a result of the final batch test for 15 days, the maximum temperature was 68.7 and the moisture reduction rate was 16.64%. Especially, qualitative and quantitative analyzes were carried out using an elemental analyzer and Total organic carbon(TOC) Analyzer to confirm the degradation of organic matter by aerobic microorganisms.



The Characteristics Chemical of Properties with Wood Waste hydrochar Using Process Water Recirculation as an Hydrothermal Carbonization

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³Woo Ri Cho, ⁴Jai-Young Lee
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Keywords: Biomass, Process Water, Hydrochar

As the use of fossil fuels increased, the amount of greenhouse gas emissions increased rapidly. Because of this, the Renewable Energy Portfolio Standard(RPS) and the Paris Climate Change Accord were adopted. For this reason, biomass is being actively researched in renewable energy for the purpose of replacing fossil fuels. Generally, biomass is mainly used as a fuel by thermal and chemical treatment. Hydrothermal carbonization(HTC) is an economical and eco-friendly method. It is possible to utilize of the bio-solid, bio-liquid and bio-gas when using this method. Especially, some organic materials in the biomass are contained in the bio-liquid by HTC process. Bio-liquid is difficult to process, because of the high chemical oxygen demand and the amount of dissolved organic carbon. In this study, the generated Bio-liquid after HTC process was applied to HTC process to improve hydrochar. The characteristics of bio-liquid recirculation on hydrochar were evaluated by proximate analysis, elemental analysis, calorific value analysis, and TGA(thermogravimetric analysis).



Characteristics of Carbides Produced in Hydrothermal Carbonization of Contaminated Dredged Sediments

^{1*}Hyeon Kyu An, ²Seong Yeol YunKaushik ³Jong Bin Kim, ⁴Jai-Young Lee ^{1,2,3,4}University of Seoul Corresponding Email: leejy@uos.ac.kr

Keywords: Hydrothermal Carbonization, Dredged Sediments

Due to development of industries, rivers and lakes are flowing with large amounts of organic matter and polluted materials. These materials accumulate in the form of sediments, and are released again to the environment due to various environmental factors such as rainfall, adversely affecting the aquatic ecosystem. The amount of sediments dredged due to the ecological restoration projects of the rivers and lakes is exponentially increasing every year, however, the actual state is that there is a lack of basic data and pollution control standards are insignificant. In general, dredged sediments are classified as waste and are disposed in an off-shore area or as landfill soil, however, due to international treaties on sediments such as the London Dumping Convention in 2012, marine dumping is prohibited and the difficulty in using and handling dredged sediments is increasing. In particular, various methods for treating polluted dredged sediments are being developed. However, the recycling rate of dredged sediments is inadequate, so additional measures are needed. Therefore, there is a need for an environmentally friendly and economical new treatment technology that is capable of treating polluted dredged sediments. HTC (Hydrothermal Carbonization) is a kind of technology applied to wastes with high water content and polluted material content, so it is considered to be effective for treating contaminated dredged sediments as they are not easy to handle due to their high water content and polluted material content. In this study, the behavior of heavy materials and the changes in physical properties of carbides created due to HTC originating from the polluted dredged sediments are investigated. For this purpose, the polluted dredged sediments were carbonized at various temperatures to produce carbides, and the handling possibility of polluted dredged sediments after HTC by changing the physiochemical properties of the generated carbides was evaluated



A Study on the Efficiency of Energy Mixed Organic Wastes Biochar by Hydrothermal Carbonization (HTC)

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Keywords: Hydrothermal Carbonization(HTC), Biochar, Food waste, Sewage sludge, Paper sludge, Solid fuel

The amounts of waste are getting closer to the limit that the environment and society can sustain. Therefore, there is a need for an appropriate alternative to dispose of the waste. Currently, energy shortages are a major global issue. It has been caused energy use indiscriminately by economic growth, population growth, industrial development and urbanization. In the Republic of Korea, organic waste has been mostly disposed of by landfill and marine dumping, but both methods are currently prohibited and appropriate alternatives to disposal and landfill are needed. Organic waste is mostly composed of carbon, which can be an energy source through appropriate disposal methods. In this study, organic wastes are carbonized by hydrothermal carbonization (HTC) and evaluated for use as solid fuels.

Hydrothermal carbonization(HTC) has the potential to produce solid fuels with high energy density. It reacts at a relatively low temperature of 180 to 250 and consumes less energy. Also, it reacts with moisture of biomass without pretreatment such as drying and dehydration. In this study, raw materials are food waste, sewage sludge and paper sludge. They are mixed at a ratio of 7:3, 5:5, 3:7, respectively, which are food waste and sewage sludge mixtures, food wastes and paper sludge mixture. The reaction was carried out at a reaction degree of 180-240 for a reaction time 1-4 hours. The biochars produced after HTC were evaluated by proximate analysis and heating value for use as solid fuel. We determined the optimum mixing ratio of food waste, sewage sludge and paper sludge through the hydrothermal carbonization. Also we evaluated the energy efficiency with solid fuel quality standard.



A Feasibility Study of the Trichloroethylene(TCE) Treatment by Potassium Ferrate

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Keywords: Potassium Ferrate, Ferrate(VI), Trichloroethylene, Wastewater Treatment

The oxidation with potassium ferrate can be used for the removal of trichloroethylene(TCE) with high concentration from wastewater. The aims of this study are 1) to investigation the optimal conditions for removal of TCE with high concentration from wastewater using potassium ferrate oxidation process and 2) to observe the chemical properties of potassium ferrate after the process as oxidation for TCE. The components of TCE in wastewater were analyzed by the gas chromatography(GC). Especially, potassium ferrate, before and after the oxidation were analyzed by x-ray diffraction(XRD), X-ray fluorescence(XRF) and field emission scanning electron microscope(FE-SEM). As the result of this study, TCE was decreased to 74% after the process for 24 hours. The oxidation with potassium ferrate significantly reduced the toxicity of TCE during the process. Also, the potassium ferrate was transformed to magnetite when potassium ferrate decomposed the TCE. In conclusion, the oxidation with potassium ferrate for removal of TCE can be considered as a promising alternative for wastewater treatment, and further studies are required for this process to be commercialized.



TRACK B

BUSINESS, SOCIAL SCIENCES AND HUMANITIES



Competitiveness Analysis of Islands in Korea : Focusing on Visitors

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Keywords: Service Shift-Share Analysis, Competitive Advantage, Industrial Mixed Effect; National Growth Effect, National Park

This paper aims to estimate tourists demand and decompose changing visitors to Odongdo using OLS (Ordinary Least Square) and shift-share analysis. The OLS regression shows that visitors to Odongdo are not sensitive to economic condition, but are greatly affected by 2012 Yeosu EXPO, global financial crisis, and Sewol Ferry Disaster. The shift-share analysis shows that three mountain national parks have positive value, which suggests that the growth of visitors is faster than the average of national growth. The remaining five mountain national parks have negative value, which means the growth of visitors is slower than the average of national growth. Odongdo also has positive competitive effect over all its neighboring regions, meaning that it is increasing tourist inflow from a certain region faster than its competitors, and has a competitive advantage over all of its neighboring mountain national parks. To the contrary, the neighbor-national sectoral shift effect shows that all of four marine national parks have positive value while Odongdo has negative competitive effect over all its neighboring mountain parks.



UP COMING EVENTS

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