

# 2014 APCBEES MACAU CONFERENCES SCHEDULE

2014 International Conference on Petroleum and Petrochemical Engineering (ICPPE 2014)  
2014 International Conference on Chemical and Bioprocess Engineering (ICCBE 2014)  
2014 International Conference on Geological and Civil Engineering (ICGCE 2014)  
2014 1st Journal Conference on Environmental Science and Development (JCESD 2014 1st)

**Macau**

**SOFITEL LUXURY HOTELS**

**January 24-25, 2014**

**Sponsored and Published by**



# 2014 APCBEES Macau Conferences Introduction

Welcome to CBEES 2014 conferences in Macau. The objective of the Macau conferences are to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in Petroleum and Petrochemical Engineering, Chemical and Bioprocess Engineering, Geological and Civil Engineering.

## 2014 International Conference on Petroleum and Petrochemical Engineering (ICPPE 2014)

- **The Publication and Index Information:** All papers of **ICPPE 2014** will be published in **the International Journal of Materials Science and Engineering (IJMSE, ISSN: 2315-4527)**, and all papers will be included in the Engineering & Technology Digital Library, and indexed by Ulrich's Periodicals Directory, Google Scholar, EBSCO, Electronic Journals Digital Library and sent to be reviewed by EI Compendex and ISI Proceedings.
- **The Conference Committee:** The Conference Committee (Including Conference Chair, Technical Program Chair and Technical Committee) of ICPPE 2014 can be checked on the website: <http://www.icppe.org/com.htm>
- **Conference Website and Email:** <http://www.icppe.org/>; [icppe@cbees.net](mailto:icppe@cbees.net)

## 2014 International Conference on Chemical and Bioprocess Engineering (ICCBE 2014)

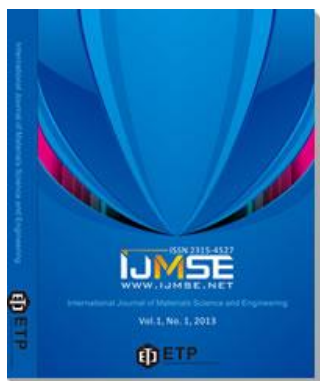
- **The Publication and Index Information:** All **ICCBE 2014** papers will be published in **the International Journal of Chemical Engineering and Applications (IJCEA, ISSN:2010-0221)**, and all papers will be included in the Engineering & Technology Digital Library, and indexed by EBSCO, DOAJ, WorldCat, Google Scholar, Cross ref, ProQuest, CABI and sent to be reviewed by Ei Compendex and ISI Proceedings.
- **The Conference Committee:** The Conference Committee (Including Conference Chair, Technical Program Chair and Technical Committee) of ICCBE 2014 can be checked on the website: <http://www.iccbe.net/com.htm>
- **Conference Website and Email:** <http://www.iccbe.net/>; [iccbe@cbees.net](mailto:iccbe@cbees.net)

## 2014 International Conference on Geological and Civil Engineering (ICGCE 2014)

- **The Publication and Index Information:** All papers of **ICGCE 2014** will be published in **the Volume of Journal (IPCBE, ISSN: 2010-4618)**, and all papers will be included in the Engineering & Technology Digital Library, and indexed by Ei Geobase(Elsevier), CABI, Ulrich's Periodicals Directory, EBSCO, CNKI, WorldCat, Google Scholar, Cross ref and sent to be reviewed by Compendex and ISI Proceedings.
- **The Conference Committee:** The Conference Committee (Including Conference Chair, Technical Program Chair and Technical Committee) of ICGCE 2014 can be checked on the website: <http://www.icgce.org/com.htm>
- **Conference Website and Email:** <http://www.icgce.org/>; [icgce@cbees.net](mailto:icgce@cbees.net)

### Excellent Paper Award

- \* One paper will be selected from each oral presentation session, and the presenter of this paper will obtain the Excellent Paper Certificate.
- \* The final result and certificates will be issued at the end of each session on 25 January, 2014.



## Instructions for Oral Presentations

### ◆ Devices Provided by the Conference Organizer:

Laptops (with MS-Office & Adobe Reader)

Projectors & Screen

Laser Sticks

### ◆ Materials Provided by the Presenters:

PowerPoint or PDF files (Files shall be copied to the Conference Computer at the beginning of each Session)

Duration of each Presentation (Tentatively):

Regular Oral Session: **about 7 Minutes of Presentation 3 Minutes of Q&A**

Keynote Speech: 30 Minutes of Presentation 5 Minutes of Q&A

## Conference website and Secretariat Contact

ICPPE 2014: <http://www.icppe.org/>; [icppe@cbees.net](mailto:icppe@cbees.net)

ICCBE 2014: <http://www.iccbe.net/>; [iccbe@cbees.net](mailto:iccbe@cbees.net)

ICGCE 2014: <http://www.icgce.org/>; [icgce@cbees.net](mailto:icgce@cbees.net)

## Schedule for January 24, 2014

January 24, 2014 (Friday)

### SOFITEL LUXURY HOTELS

|                 |                          |
|-----------------|--------------------------|
| 10: 00 – 12: 30 | Arrival and Registration |
| 13: 30 – 17: 00 |                          |

**Note:** (1) You can also register at any time during the conference.

(2) The organizer doesn't provide accommodation, and we suggest you make an early reservation.

(3) One Excellent Paper will be selected from each oral session. The Certificate and the gift for Excellent Papers will be awarded at the end of each session on **January 25, 2014**.

## Schedule for January 25, 2014

January 25, 2014 (Saturday)

### The General Time of Each Presenter on January 25

| Conference Name            | Session Number and Time      | Session Venue      |
|----------------------------|------------------------------|--------------------|
| ICGCE 2014&ICCBE 2014      | Session 1 (10:00am– 12:30am) | “Promenade 2” Room |
| ICPPE 2014& JCESD 2014 1st | Session 2 (13:30pm– 15:00pm) | “Promenade 2” Room |

**The Certificate and the gift for Excellent Papers will be awarded at the end of each session.**

### The General Process on January 25 for Reference

08:30-9:40 Opening Remarks and Keynote Speeches)

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9:40-10:00 Taking Photo and Coffee Break

↓

10:00-12:30 Session 1(ICGCE 2014&ICCBE 2014)

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12:30-13:30 Lunch(Please bring the lunch coupon to the restaurant and enjoy the lunch)

(Please arrive on time at “Promenade 2” Room by 13:30. If your presentation is in Session 2, please kindly arrive at the “Promenade 2” Room before 13:20 to copy your PPT and prepare your presentation. Thank you for your cooperation!)

↓

13:30-15:00 Session 2(ICPPE 2014& JCESD 2014 1st)

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15:00-15:30 Coffee Break

(Coffee Break leisure offer you a great time to communicate with other experts about your study field or research results)

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19:30 Dinner(Please bring the dinner coupon to the restaurant and enjoy the dinner)




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**The End of the Conference**

## The Detail Schedule for January 25

**Morning, January 25, 2014**

Venue: “Promenade 2” Room

|                     |   |
|---------------------|---|
| <p>08:30-08:40</p>  | <p>Opening Remarks<br/>Prof. Chan Jin Park</p>  <p>Incheon National University</p>  |
| <p>08:40-09:10</p>  | <p>Keynote Speaker I<br/>Dr. Gordon Lai Ming LEU</p>  <p>Chu Hai College of Higher Education, Hong Kong<br/>Topic: “Road Research in Hong Kong - Past, Present and Future”</p> |
| <p>09:10 – 9:40</p> | <p>Keynote Speaker II</p>  <p>Prof. Chan Jin Park<br/>Incheon National University<br/>Topic: “Effective Monitoring of Odor Pollution in Urban Area”</p>                       |
| <p>9:40-10:00</p>   | <p>Taking Photo and Coffee Break</p>  |



**Morning, January 25, 2014**

SESSION – 1 (ICGCE 2014&amp;ICCBE 2014)

Venue: “Promenade 2” Room

Session Chair: Prof. Chan Jin Park

Time: 10:00 – 12:30

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| M0002 | <p>A Hong Kong Case Study on the Combined Usage of In-situ and Laboratory Test Devices for Road Foundation Assessment</p> <p><b>Gordon LM Leung</b> and Alan WG Wong</p> <p><i>Abstract</i>—Recently the Hong Kong Road Research Laboratory (HKRRL) was engaged by a major highway contractor to evaluate the pavement subgrade condition of an existing access road at the Peak on Hong Kong Island. Due to the narrow and unique nature of the road, large scale tests such as Falling Weight Deflectometer (FWD) and On-Site California Bearing Ratio tests were difficult to be carried out. The difficulty was further exacerbated by the limited time of lane closure allowed by the authorities. Because of the various constraints, the HKRRL adopted a more comprehensive solution by making use of various in-situ (small scale) and laboratory test techniques for the subgrade assessment exercise. The combined site and laboratory test results successfully demonstrated that the stiffness of the subgrade material was becoming progressively lower towards the western portion of the road alignment and were able to give expert advice to the contractor on the extent for further detailed examination. The test results also agree well with the site observation of the geological outcrops.</p> |
| M0012 | <p>The Application of Satellite Remote Sensing on Habitat Management</p> <p><b>Chi-Sheng Teng</b>, Ya-Chin Teng, Aileen Wei-Zheng Teng, Wei-Yea Chen, Ho-Wen Chen, Ying-Chyi Chou, Ching-hua Lu and Liang-Kong Lin</p> <p><i>Abstract</i>—In recent year, habitat of wild animals decreases rapidly due to urban development which leads to decrease in biodiversity. The urban development has not taken a comprehensive planning and design, but instead it develops separately. Nonetheless, this urbanization phenomenon has resulted in insufficient greenery and inability to improve green coverage rate. This study attempts to understand distribution of greenery resources at Taichung Tatu area during spring and winter time by using Satellite Remote Sensing, thus conducts analysis of normalized difference vegetation index (NDVI) to explore changes in different seasons so we can identify habitat management strategies in more complicated forest vegetation area.</p>   |
| M0018 | <p>Experimental test for the detection of damage to a concrete beam</p> <p><b>Saidi abdelkrim</b>, Hamouine abdelmadjid and Abdellatif megnounif</p> <p><i>Abstract</i>—The using vibration analysis for early detection of cracks has gained popularity over the years and in the last decade substantial progress has been made in that direction. Dynamic characteristics of damaged and undamaged materials are very different. For this reason, material faults can be detected. The objective of this study is to analyze the vibration behavior of concrete beams both experimentally and using FEM software ANSYS subjected to the crack under free vibration cases. Besides this, information about the location and depth of cracks in cracked concrete beams can be obtained using this technique.</p>   |
| M0022 | <p>Bond Strength of Re-bars in Interior Beam-Column Joint Under Cyclic Loading</p> <p><b>Hyeon-Jong Hwang</b>, Tae-Sung Eom and Hong-Gun Park</p> <p><i>Abstract</i>—The inelastic deformation of RC beam-column connections is significantly increased by the re-bar bond-slip under cyclic loading. In the present study, analyzing existing beam-column joint test results, a bond strength model was developed to evaluate bond-slip of beam re-bars in the joint. For verification of the proposed model, the prediction of the proposed model was compared with the cyclic test results of bond-slip specimens. The result showed that the prediction agreed well the bond strength</p>   |

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|       | degradation and the bond-slip of re-bars.  |
| M0024 | <p>Shear Strength of Low-rise RC Walls with Grade 550 MPa Bars<br/> <b>Baek Jang-Woon</b>, Park Hong-Gun and Shin Hyun-Mock</p> <p><i>Abstract</i>—In the construction of nuclear power plants using massive walls, the use of high-strength re-bars for shear design is necessary, to enhance the constructability and economy. In this study, low-rise walls (aspect ratio of 1.0) with Grade 550 MPa re-bars were tested, to investigate the shear capacity under cyclic loading. The test parameters were the grade of horizontal reinforcement, concrete strength, shapes of cross-section. The failure mode of the walls with 550 MPa bars was diagonal shear cracking, followed by web-crushing, which was the same as that of the wall with 420 MPa bars. The ratio of the peak shear strength to the prediction of ACI 349 was 1.33~1.80 for the shear provision, and 1.27~1.69 for the seismic provision, respectively. The test result indicates that Grade 550 MPa re-bars can be applicable to low-rise RC walls.</p> |
| M0025 | <p>Shear Strength of Composite Beams with Dual Concrete Strengths<br/> <b>Chul-Goo Kim</b>, Hong-Gun Park, Su-Min Kang and Geon-Ho Hong</p> <p><i>Abstract</i>—Currently, in precast concrete constructions, precast and cast-in-place concrete with different concrete strengths are used in a composite structural member. However, current design codes are not obvious for calculating the vertical shear strength of PC-CIP composite members using dual concrete strengths. In the present study, shear strength of composite beams using dual concrete compressive strengths (24MPa, 60MPa) was tested. The test variables were the section area ratio of two type concretes, flexural reinforcement ratio, and shear span-to-depth ratio.</p>  |
| M0026 | <p>Flexural Capacity of Concrete-Filled Tubular Columns Encased with Precast Concrete<br/> <b>Ho-Jun Lee</b>, Hong-Gun Park, Sung-Bae Kim and Sung-Soon Park</p> <p><i>Abstract</i>—In this paper, concrete-filled steel tubular columns encased with precast concrete (PC) were studied. Four eccentrically loaded columns and a concentrically loaded column were tested to investigate the load-carrying capacity. The test parameters were the eccentricity, column length, and reinforcement details of the PC cover. The test results indicate that despite the small thickness, the cover precast concrete contributed to the load-carrying capacity, though in some specimens the load carrying capacity quickly decreased after the peak strength, due to the spalling of the cover concrete. The peak strengths of the specimens were compared with the predictions by current design codes.</p>   |
| M0031 | <p>Properties of Soil Sediment in Wadi Arar, Kingdom of Saudi Arabia<br/> <b>Alnos Hegazy</b> and Mohammed Alghamdi</p> <p><i>Abstract</i>—According to the urban extension of Arar's city, the soil properties are strongly required. The surface deposits of Wadi Arar, that extend for 22 km at north-east direction is a mature river deposits. The deposits are silty sand with low plasticity as unified soil classification system (USCS). The average contents of sand, silt and gravel are 54%, 30% and 16% respectively. Due to the convergence of the Sha'ibs with Wadi Arar, the average content of sand, silt and gravel are changed. The results indicated that the soil in Wadi Arar is suitable as a structure soil and it is not suitable as a cementing material product.</p>  |
| M0032 | <p>Research on Geotechnical Seismic Isolation System<br/> <b>Jin Man Kim</b>, Hong Woo Jeon, Su Won Son, Geon Ha Na and Yong An Lee</p> <p><i>Abstract</i>—The seismic isolation system has been being used to improve the seismic performance of bridge structures. There are different types of seismic isolation systems for bridge structures. Typically, the isolation system is located between the top of the pier (shoe) and the bottom of the bridge girder. Occasionally, the system is positioned on the top of the foundation of the bridge. The seismic isolation system on the top of the foundation is difficult to design and to construct. Decade ago, this type of the</p>   |

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|       | <p>seismic isolation system had been designed and constructed for Rion-Antrion Bridge in Greece. This paper describes the research on this type of the seismic foundation isolation system that is described as the geotechnical seismic isolation system. 2-D dynamic FEM and 1-G shaking table were used to study. The results show that the system effectively reduces the acceleration. On the other hand, the displacement increases due to sliding.</p>  |
| M0034 | <p>Stability Analysis of Homogeneous Earth Slopes<br/> <b>Gopi Siddappa</b> and M.C. Shanthakumar<br/> <i>Abstract</i>—Slope is an exposed ground surface that stands at an angle with the horizontal. Slopes are required in the construction of highway and railway embankments, earth dams, levees, canals etc., and are generally less expensive. Failure of natural slopes and man-made slopes has resulted in much death and destruction. Slope stability analysis consists of determining and comparing the shear stress developed along the potential rupture surface with the shear strength of the soil. Attention has to be paid to surface drainage, groundwater, and the shear strength of soils in assessing slope stability. For a safe slope FOS should be greater than 1. The advent of electronic computers made it possible to more readily handle the iterative procedures and the use of slope stability software has simplified the analysis to a great extent. In the present study the software SLOPE/W has been used to analyze the homogeneous slope for various cohesive strengths.</p>   |
| M1004 | <p>Blended Low Calcium Fly Ash Geopolymer Concrete – Environment Friendly Construction Material<br/> <b>D S Cheema</b> and N Lloyd<br/> <i>Abstract</i>—Alkali activated low fly ash-based geopolymer concrete (LCFG) is an environment friendly construction material because of its zero cement content, however its rapid strength gain mechanism is sensitive to heat curing as per past research studies. Blended LCFG concrete with small proportion of slag is more aligned to conventional Ordinary Port Land Cement (OPC) concrete for initial strength gain under ambient curing conditions and can be potential construction material. Blended LCFG concrete binder being by-products from coal fired power station and iron extraction process offer considerable saving of CO<sub>2</sub> emission which otherwise is probable with OPC production due to its intensive energy requirements. This paper presents the findings of blended LCFG concrete and LCFG concrete and its potential replacement scenarios to OPC concrete.</p>   |
| G0002 | <p>High Molecular Sericin from Bombyx Mori Cocoons: Extraction and Recovering by Ultrafiltration<br/> <b>Marcelino L. Gimenes</b>, Vitor R. Silva, Melissa G. A. Vieira, Meuris G. C. Silva, and Agnes P. Scheer<br/> <i>Abstract</i>—The present study focus on sericin extraction process from Bombyx mori cocoons using water in absence of chemical additives under different physical conditions aiming to obtain high molecular weight sericin. Separation and fractionation of sericin proteins to obtain high molecular weight material was also carried out using ultrafiltration process at different operating modes: batch, diafiltration and batch with back flushing water pulse. The molecular weight of extracted sericin protein using pure water showed in general a size distribution varying from 20 up to 400 kDa, with major peaks between 200 kDa and 100 kDa and peaks with fraction of sericin lower than 100 kDa, depending on conditions used in the extraction and concentration. The results demonstrated viability to separate sericin fractions having molecular size higher than 50 kDa, using the ultrafiltration process with 50 kDa cut-off membrane, however, a flux decline above 90 % was detected independent of operating mode. Increasing the concentration factor from 2 to 4 promotes the permeation of sericin molecules of high molecular weight, reducing the rejection coefficient of 71.1 % to 60.4 %.</p> |
| G0003 | <p>Pretreatment of Aqueous Pectin Solution by Cross-flow Microfiltration: Study on Fouling Mechanism<br/> <b>Marcelino Luiz Gimenes</b>, Vitor Renan Silva, Fabiane Hamerski, and Agnes De Paula Scheer<br/> <i>Abstract</i>—This research was carried out to determine the predominant fouling mechanism during the</p>   |



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|              | <p>pretreatment of an aqueous pectin solution by cross-flow microfiltration with membrane with nominal size of 0.44 m, at different values of transmembrane pressure, temperature, and pectin concentration. To evaluate the predominant resistive mechanism was used series resistance and permeate flux model analysis. The rejection coefficient for pectin varied from 93.4 to 97.9%. The maximum flux observed was <math>238.69 \pm 6.48 \text{ kg m}^{-2} \text{ h}^{-1}</math> at transmembrane pressure of 0.12 MPa, temperature of 50 °C and initial pectin of <math>1.0 \text{ g kg}^{-1}</math>. The dominant restrictive mechanism observed was the cake layer formation, for all assay evaluated.</p>  |
| G0004 poster | <p>Application of Peanut Husk Ash as a Low-Cost Solid Catalyst for Biodiesel Production<br/>Yong-Ming Dai, Kung-Tung Chen, Yu-Jie Wang, and <b>Chiing-Chang Chen</b></p> <p><i>Abstract</i>—This work investigates the use of <math>\text{Li}_2\text{CO}_3</math>-modified waste peanut husk ash as the solid base catalyst for the biodiesel production. The prepared waste peanut husks as the solid base catalyst are characterized by XRD, BET, SEM and TGA for the physical and chemical properties. In the present study, the biodiesel is synthesized from soybean oil through a transesterification reaction catalyzed by the solid base catalyst. Under the optimal reaction conditions of methanol/oil molar ratio 12:1, 5% (wt/wt oil) catalyst amount, and a reaction temperature of 65 °C for 4 h, there is a 98.4 % conversion to the biodiesel from soybean oil.</p> |

12:30 – 13:30

Lunch

### Afternoon, January 25, 2014

SESSION – 2 (ICPPE 2014&amp;IJESD 2014)

Venue: “Promenade 2” Room

Session Chair: Gordon LM Leung

Time: 13:30 – 15:00

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| P1002  | <p>BLEVE Performance of Fire Protection Coating Systems on Dangerous Goods Tanks in a Test Fire<br/><b>Christian Sklorz</b>, Frank Otremba, Christian Balke</p> <p><i>Abstract</i>—How can the risk of a BLEVE be reduced? That is the main question based on different research projects. In various large scale fire tests fire protection coating systems were used of different manufacturers. The degree of the coating as well as the layer thickness and the processing were varied. These experimental configurations were partly tested with and without pressure relief valve. The pressure relief valves were not protected again the thermal Load from the test fire. The ambition is to find a minimum of the thickness from the fire protection coating witch delay a BLEVE up to 90 minutes. Here are given the most interested configurations of tanks in fire and a description of the test-rigs.</p>   |
| CD0160 | <p>Environmental Mitigation Possibility via Organic Farming: Lettuce Case Study<br/><b>C. Wongwai</b>, T. Mungcharoen, and R. Tongpool</p> <p><i>Abstract</i>—The contamination of toxic in agricultural food and environment are the concerned issue in Thailand because it could damage the agricultural land and health of people in the long time and it also take many time to recover. This study were studied the environmental impact of organic lettuce (Grand rapids) compared with the conventional lettuce. The study consider 8 impact categories: 1) Climate change, 2) Human toxicity, 3) Terrestrial ecotoxicity, 4) Freshwater ecotoxicity, 5) Water depletion, 6) Fossil depletion, 7) Freshwater eutrophication and 8) Marine eutrophication. The scope considers the material input production, transportation and emission from the farm .The result of this study shown that organic lettuce were lower impact than conventional lettuce in all impact categories especially the three toxicity issue.</p> |

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|        | Therefore, the organic lettuce could be the solution way to mitigation the environmental impact from the conventional lettuce in Thailand.  |
| CD0162 | <p>Effect of Different Types of Music on <i>Rosa Chinensis</i> Plants<br/> <b>Vidya Chivukula</b> and Shivaraman Ramaswamy</p> <p><i>Abstract</i>—Music influences the growth of plants and can either promote or restrict the growth of plants (depending on the type of music being played). The present experiment is aimed to study the effect of music on 30 Rose (<i>Rosa chinensis</i>) plants taken in separate pots. The plants were divided into five groups and each group was subjected to one of the following types of music, Indian Classical music, Vedic chants, Western Classical music, and Rock music while one group was kept in silence as the control group. The elongation of shoot, internode elongation, the number of flowers and the diameter of the flowers were recorded and changed studied over a period of 60 days. Significant differences have been noted.</p> <p>It was seen that the plants exposed to Vedic chants showed the maximum elongation of shoot, maximum number of flowers and highest diameter of flowers. The internode elongation was highest in plants exposed to Indian classical music. This clearly shows that the subjecting the plants to Vedic chants or Indian classical music promotes the growth of plants as compared to the control group or subjecting them to Western classical or Rock music.</p>   |
| CD0163 | <p>Life Cycle Assessment of Sajor-caju Mushroom (<i>Pleurotus sajor-caju</i>) from Different Sizes of Farms in Thailand<br/> <b>Siraprapa Ueawiwatsakul</b>, Thumrongrut Mungcharoen, and Rungnapa Tongpool</p> <p><i>Abstract</i>—Sajor-caju (<i>Pleurotus sajor-caju</i>) is one of the most famous mushroom in Thailand. Sajor-caju farming uses plastic bags for cultivation. Energy is needed for sterilization of substrate and waste management of spent plastic bag. Thailand has several sizes of sajor-caju farms which have different cultivation management. Therefore, the environmental performance of sajor-caju produced from three farm sizes was evaluated in this study using life cycle assessment approach. It was found that the main impacts came from (i) substrate preparation which are the production and transportation of the substrate raw materials and (ii) sterilization process. Medium farm showed relatively large impacts in all impact categories. The climate change caused by 1 kg sajor-caju produced from big, medium and small farms were 3.371, 5.003 and 3.0146 kg CO<sub>2</sub> eq, respectively.</p>  |
| CD0165 | <p>Estimation of Frequency Based Snowfall Depth Considering Climate Change<br/> Yon Soo Kim, Na Rae Kang, <b>Seung Jin Hong</b> and Hung Soo Kim</p> <p><i>Abstract</i>—In Korea, the rainfall intensity becomes more and more stronger in flood season(June to September) and the extreme snowfall depth is showing increasing trend in winter season(December to February). We understand this phenomenon is occurring due to the climate change. Especially, the snow is one of the main disasters involving loss of life and the destruction of property in Korea. This study estimates the future snowfall depth considering the climate change. The SRES A1B climate change scenarios, provided by the IPCC for the simulation of future climate data, were applied for the four different targets periods (Target I : 1971~2010, Target II : 2011~2040, Target III : 2041~2070, Target IV : 2071~2100) and the frequency analysis for the future snowfall depth is performed for 20, 30, 50, 80, 100, and 200 years return periods. The future snowfall depth is estimated with the relationship between meteorological components such as temperature and precipitation but these components will have nonlinear relationship with the snowfall depth. Therefore this study uses neural network method for the consideration of nonlinearity between the components and snowfall depth. We use the observed data of temperature, precipitation, and snowfall depth for 58 stations having over 30 years recorded data for future snowfall depth analysis.</p> |
| CD0166 | Regional Frequency Analysis for the Simulated Rainfall Based on A1B and RCP 8.5 Scenarios   |

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|        | <p><b>Byoung Yun Ann</b>, Hei Sung Noh, Hung Soo Kim, and Bo Rim Lee</p> <p><i>Abstract</i>—Recently, severe rain storms and flash floods are frequently occurring due to the climate change in Korea. The IPCC in Fourth Assessment Report (AR4) predicted that heavy rainfalls and typhoons will be more and more stronger due to temperature increase. Therefore, we should try to do our best to reduce CO<sub>2</sub> and we should also estimate frequency based rainfall according to the change of CO<sub>2</sub> that is, under climate change for use it in hydrologic aspect. Most analysis have been performed based on A1B and A2 scenarios suggested in AR4 in Korea but now rainfall frequency analysis is conducting based on RCP(Representative Concentration Pathways) 4.5 and 8.5 scenarios in AR5. The obtained rainfalls in this study from the climate model with the RCP scenarios are calibrated using Quantlie-mapping to correct the error involved in the model. The rainfall analysis is performed for the Korean peninsula. The region is classified into 13 areas based on homogeneous characteristics in meteorology and hydrology then the regional frequency analysis for the rainfall is performed. This study considers three target periods for the future rainfall (period I: 2011~2040, period II: 2041~2070, period III: 2071~2100) and uses L-moment algorithm for the regional frequency analysis. From the analysis of the future rainfall simulated, the frequency based rainfall is estimated and examined. This frequency based rainfall could be used as the data for the future hydrologic design criteria.</p> |
| CD0167 | <p>Impact of Climate Change on Flood Discharge and Flood Stage in the River Basin</p> <p><b>Semin Oh</b>, Hyunseok Shin, Hung Soo Kim, and Taegyun Kim</p> <p><i>Abstract</i>—This study is to assess the impact of climate change on flood discharge and flood stage in Sumjin river basin, Korea. Sumjin, Yochun, and Bosung rivers are selected for this study, and these are the areas in which the model is constructed and applied. SRES A1B climate change scenarios, provided by the IPCC for the simulation of future climate data, were applied for the four different targets periods (Target I : 1971~2010, Target II : 2011~2040, Target III : 2041~2070, Target IV : 2071~2100) and HEC-GeoHMS and HEC-HMS models are used to estimate flood discharge for each target period. Then HEC-RAS model is served for investigating the variation of flood stage due to the climate change at Songjung station which is located in the basin outlet. The results are compared and examined with the previous studies that climate change was not considered.</p>   |
| CD0169 | <p>Phytoremediation of Heavy Metal Contaminated Soil by <i>Psoralea Pinnata</i></p> <p>Richie O. Ochonogor and <b>Harrison I. Atagana</b></p> <p><i>Abstract</i>—Soil contaminated with iron and chromium was planted with <i>Psoralea pinnata</i> under greenhouse condition. The growth of the plants and phytoextraction of the metal contaminants from the soil were studied for a period of three months. The results showed that <i>Psoralea pinnata</i> was able remove both chromium and iron from the contaminated soil during the period of experimentation. The percentage reduction in chromium and iron concentrations in the experimental soil varied greatly at different concentration of both contaminants in the two soils used. It was observed however that at some points in the experiment involving mixed concentration of iron and chromium, there were preferences on accumulation of metals by <i>Psoralea pinnata</i>. Results show that chromium was initially most accumulated by <i>Psoralea pinnata</i> (up to 68%). As the concentration of contaminants increased, at high concentrations, iron was recorded to have been accumulated more in <i>Psoralea pinnata</i> (up to 55%).</p>  |

15:00 - 15:30

Coffee Break

January 25, 2014 19:30

Dinner

# Conference venue

## SOFITEL LUXURY HOTELS

SOFITEL MACAU AT PONTE 16

<http://www.sofitelmacau.com/zh/the-hotel.html>



Like a modern Portuguese palace, Sofitel Macau at Ponte 16 rises to a height of 18 floors. Swirling curves of the cobbled forecourt and driveway lead to the lobby with its shimmering crystal ceiling, mosaic floor and massive hand-painted mural. Amidst all this glamour and space Sofitel Ambassadors greet arrivals with a smiling “Bonjour or Bonsoir!” straight from the heart. French sophistication and Sofitel’s impeccably polished art of living complement Macau’s long tradition of welcoming discerning international visitors.




For business and leisure travellers alike Sofitel Macau provides a unique riverside location at the heart of Macau’s original trading and artisanal area, only a few minutes’ walk from major UNESCO-listed world heritage sites namely Senado Square, St. Paul’s Ruins and A-Ma Temple. Feel at home in Macau. Absorb the gentle rhythms of waterborne traffic. Wander at will through the surrounding streets and their intriguing small workshops, traditional eateries, curio stores and neighbourhood temples.

## APCBEEs FORTHCOMING CONFERENCES

<http://www.cbees.org/events/>

### May 2014, Sydney, Australia

| Date   | Conference  | Location          | Submission Deadline |
|--|---|-------------------|---------------------|
| May. 27-28, 14   | 2014 International Conference on Environmental Engineering and Development (ICEED 2014) | Sydney, Australia | Jan 01, 14          |
|   |   |                   |                     |
| May. 27-28, 14   | 2014 International Conference on Biomedical and Pharmaceutical Engineering (ICBPE 2014) | Sydney, Australia | Jan 01, 14          |
|  |   |                   |                     |
| May. 27-28, 14   | 2014 International Conference on Advances in Bioscience and Bioengineering (ICABB 2014) | Sydney, Australia | Jan 01, 14          |



**International Conference on Advances in Bioscience and Bioengineering**  
 May 27-28 Sydney, Australia



**ICABB 2014**



**June 2014, Bangkok, Thailand**

| Date           | Conference  | Location          | Submission Deadline |
|----------------|---|-------------------|---------------------|
| Jun. 09-11, 14 | 2014 3 <sup>rd</sup> International Conference on Environment, Energy and Biotechnology (ICEEB 2014) | Bangkok, Thailand | Jan 15, 14          |

**2014 3rd International Conference on Environment, Energy and Biotechnology**  
 June 9-11, 2014 Bangkok, Thailand



**ICEEB 2014**




|                |   |                   |            |
|----------------|---|-------------------|------------|
| Jun. 09-11, 14 | 2014 4 <sup>th</sup> International Conference on Asia Agriculture and Animal (ICAAA 2014) | Bangkok, Thailand | Jan 15, 14 |
|----------------|---|-------------------|------------|

**2014 4th International Conference on Asia Agriculture and Animal**  
 June 9-11, 2014 Bangkok, Thailand



**ICAAA 2014**



|                |   |                   |            |
|----------------|---|-------------------|------------|
| Jun. 09-11, 14 | 2014 3 <sup>rd</sup> International Conference on Chemical and Process Engineering (ICCPPE 2014) | Bangkok, Thailand | Jan 15, 14 |
|----------------|---|-------------------|------------|

**2014 3rd International Conference on Chemical and Process Engineering**  
 June 9-11, 2014 Bangkok, Thailand

**ICGPE 2014**

CBEEES [www.cbcees.org](http://www.cbcees.org) IJCEA  
 ISSN: 2010-0221

**June 2014, Copenhagen, Demark**

| Date           | Conference   | Location           | Submission Deadline |
|----------------|--|--------------------|---------------------|
| Jun. 18-20, 14 | 2014 3rd International Conference on Nutrition and Food Sciences(ICNFS 2014) | Copenhagen, Demark | Feb 25, 14          |

**2014 3rd International Conference on Nutrition and Food Sciences**  
 June 18-20 , 2014 Copenhagen, Denmark

**ICNFS 2014**

IPCBEE  
 ISSN: 2010-4618

|                |   |                    |            |
|----------------|---|--------------------|------------|
| Jun. 18-20, 14 | 2014 3rd International Conference on Bioinformatics and Biomedical Science (ICBBS 2014) | Copenhagen, Demark | Feb 25, 14 |
|----------------|---|--------------------|------------|

**2014 3rd International Conference on Bioinformatics and Biomedical Science**  
 June 18-20 , 2014 Copenhagen, Denmark

**ICBBS 2014**

IJBBB  
 ISSN: 2010-3638

|                |  |                    |            |
|----------------|--|--------------------|------------|
| Jun. 18-20, 14 | 2014 International Conference on Environmental and Engineering | Copenhagen, Demark | Feb 25, 14 |
|----------------|--|--------------------|------------|



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|  | Geoscience (ICEEG 2014) |  |  |
|--|-------------------------|--|--|

**2014 International Conference on Environmental and Engineering Geoscience  
June 18-20, 2014 Copenhagen, Denmark ICEEG 2014**

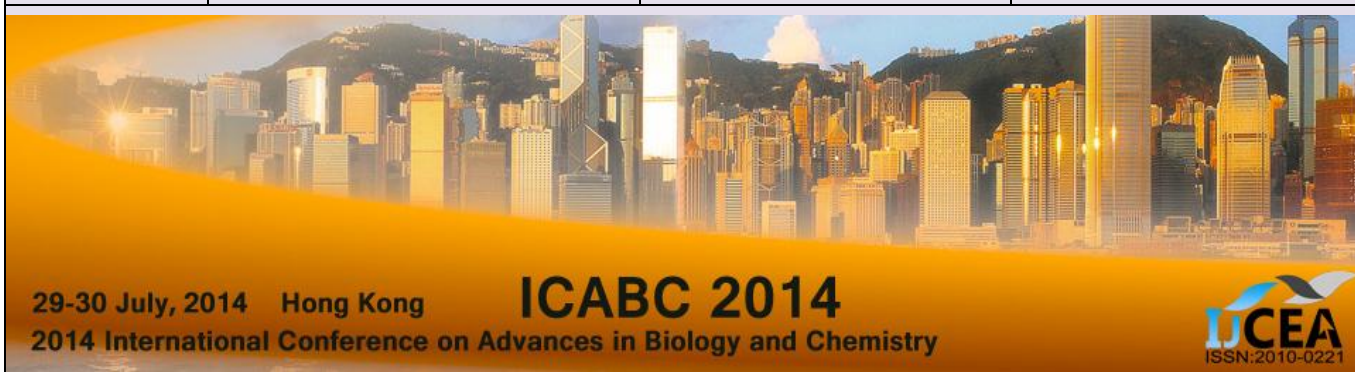


**July 2014, Hong Kong**

| Date           | Conference  | Location  | Submission Deadline |
|----------------|---|-----------|---------------------|
| Jul. 29-30, 14 | 2014 International Conference on Food and Nutrition Technology (ICFNT 2014) | Hong Kong | Apr 05, 14          |



|                |   |           |            |
|----------------|---|-----------|------------|
| Jul. 29-30, 14 | 2014 International Conference on Advances in Biology and Chemistry (ICABC 2014) | Hong Kong | Apr 05, 14 |
|----------------|---|-----------|------------|



|             |                                  |           |            |
|-------------|----------------------------------|-----------|------------|
| Jul. 29-30, | 2014 International Conference on | Hong Kong | Apr 05, 14 |
|-------------|----------------------------------|-----------|------------|



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|--|--|--|--|
| 14   | Environment and Natural Resources (ICENR 2014) |  |  |
|  The banner for the 2014 International Conference on Environment and Natural Resources (ICENR 2014) features a scenic view of Hong Kong's skyline at dusk. A large cruise ship is docked in the foreground. The text on the banner includes the IJESD logo with ISSN: 2010-0264, the conference title "2014 International Conference on Environment and Natural Resources", and the event details "ICENR 2014", "29-30 July, 2014", and "Hong Kong". |  |  |  |

We sincerely welcome your submission and participation in APCBEES future conferences, you can disseminate our conferences to your friends or colleagues if you have a good and positive impression of our conferences. We really appreciate for your support.

More information about our conference can be found at: <http://www.cbees.org/events/>

Welcome to be APCBEES Member, you can send your application to [membership@cbees.org](mailto:membership@cbees.org). The information about APCBEES Member can be checked on the website: <http://www.cbees.org/membership/>.





| <b>Note</b> |
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