2017 APCBEES PENANG CONFERENCE ABSTRACT

January 8-10, 2017

Universiti Sains Malaysia

Penang, Malaysia

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2017 APCBEES Penang Conference Introductions

Welcome to CBEES 2017 conference in Penang, Malaysia. The objective of the Penang conference is 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 Climate Change, Humanity, Future Environment and Energy as well as Geological and Civil Engineering.

2017 6th International Conference on Climate Change and Humanity (ICCCH 2017)

❄ **Paper publishing and index:** ICCCH 2017 papers will be published in the following journal:

International Proceeding of Chemical, Biological and Environmental Engineering (IPCBEE,ISSN:2010-4618), and all papers will be indexed by EBSCO, Chemical Abstracts Services (CAS), CABI, CNKI, WorldCat, Google Scholar, Ulrich's Periodicals Directory, Crossref, and Engineering & Technology Digital Library.

❄ **Conference website and email:** http://www.iccch.org/; iccch@cbees.org.

2017 7th International Conference on Future Environment and Energy (ICFEE 2017)

❄ **Paper publishing and index:** ICFEE 2017 papers will be published in the following journals:

Journal of Clean Energy Technologies (JOCET, ISSN:1793-821X), which will be indexed by EI (INSPEC, IET), Electronic Journals Library, Chemical Abstracts Services (CAS), Ulrich's Periodicals Directory, Google Scholar, ProQuest and DOAJ…

Journal of Environmental Science and Development (IJESD, ISSN: 2010-0264), and all papers will be included in the Engineering & Technology Digital Library, and indexed by WorldCat, Google Scholar, Cross ref, ProQuest , CABI.

❄ **Conference website and email:** http://www.icfee.org/; icfee@cbees.org.

2017 4th International Conference on Geological and Civil Engineering (ICGCE 2017)

❄ **Paper publishing and index:** ICGCE 2017 papers will be published in the following journal:

International Journal of Structural and Civil Engineering Research (IJSCER, ISSN: 2319-6009), and all accepted and registered ICGCE 2017 papers will be published in IJSCER and will be included in New Jour (Electronic Journals & Newsletters), Open J-Gate, Index Copernicus International, Indian Science, Research BIB Japan.

❄ **Conference website and email:** http://www.icgce.org/; icgce@cbees.net.

Presentation Instructions

Instructions for Oral Presentations

Devices Provided by the Conference Organizer:

Laptop Computer (MS Windows Operating System with MS PowerPoint and Adobe Acrobat Reader)
Digital Projectors and Screen
Laser Sticks

Materials Provided by the Presenters:

PowerPoint or PDF Files (Files should be copied to the Conference laptop at the beginning of each Session.)

Duration of each Presentation (Tentatively):

Regular Oral Presentation: about **12** Minutes of Presentation and **3** Minutes of Question and Answer
Keynote Speech: about **30** Minutes of Presentation and **5** Minutes of Question and Answer

Plenary Speech: about **25** Minutes of Presentation and **5** Minutes of Question and Answer

Instructions for Poster Presentation

Materials Provided by the Conference Organizer:

The place to put poster

Materials Provided by the Presenters:

Home-made Posters
Maximum poster size is A1
Load Capacity: Holds up to 0.5 kg

Best Presentation Award

One best oral presentation will be selected from each oral presentation session, and the Certificate for Best Oral Presentation will be awarded at the end of each session on January 9, 2017.

Dress code

Please wear formal clothes or national representative of clothing.

Keynote Speaker Introductions

Keynote Speaker I

Prof. Ngai Weng Chan
School of Humanities, Universiti Sains Malaysia, Malaysia

Ngai Weng Chan is Professor of Physical Geography at the Universiti Sains Malaysia in Penang, Malaysia. His main research areas are Environmental Hazards Management, Hydro-Climatology & Water Resources Management. He is currently Vice-President of the International Water Resources Association, Member of International Association of Hydrological Sciences and Member of International Water Association. He is currently President of Water Watch Penang (WWP), Treasurer of Malaysian Environmental NGOs (MENGOs) and member of Malaysian Water Partnership and Malaysian Water Association. He has completed more than 50 research/consultancy projects and published 26 Books, 59 Chapters in Books, and more than 100 professional papers.

Topic: “Urbanization, Climate Change and Cites: Challenges and Opportunities for Sustainable Development”

Abstract: Urbanization, climate change and cities are intricately related as change in any one will affect the others. The human population has lived a rural lifestyle through most of history. The world’s population is quickly becoming urbanized. In 1950, less than 30% of the world’s population lived in cities. This number grew to 47% in the year 2000 (2.8 billion people), and it is expected to grow to 60% by the year 2025. The world’s urban population is expected to increase to 84 % by 2050, i.e. from the 3.4 billion in 2009 to 6.3 billion in 2050. All these means more and more people will be living in urban areas, as more and more people migrate to cities. There are many challenges and opportunities for sustainable development in cities that need to be addressed. Many cities in developing countries are viewed as “bad examples” of unsustainable development but at the same time, there are equally many cities that are viewed as “good examples”. There are countless innovative means of addressing sustainability issues in cities. Cities need to be committed and choose what they want to achieve and prioritise their needs. Sustainability is no longer a “luxury good” but a “basic need” of cities if they want to survive and flourish in the future. Cities must learn to be sustainable in terms of their needs, energy, food, water and other resources. Cities must control their ecological, water and carbon footprints, especially when climate change is now impacting the entire planet. Cities contribute to climate change via burning of fossil fuels, generating urban heat islands, deforestation and other activities, and are subject to climate change and its ill effects. Cities, however, can help control climate change via reducing greenhouse gases, renewable energy, green designs, sustainable communities, eco-cities and other city measures. Cities must move away from reliance on fossil fuels to power themselves, but develop clean and more sustainable alternatives. This paper not only attempts to link climate change with sustainable cities and debate on the possible solutions to address climate change and city sustainability. Cities that have achieved success in terms of fighting climate change and achieved sustainability in renewable energy are highlighted.

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Keynote Speaker II

Assoc. Prof. Choong Kok Keong
School of Civil Engineering, Engineering Campus, Universiti Sains Malaysia, Malaysia

Dr. Choong is currently an Associate Professor at School of Civil Engineering, Universiti Sains Malaysia, Penang, Malaysia. He graduated with a Doctor of Engineering degree from The University of Tokyo, Japan. His field of interest is computational analysis of shell and spatial structures. One of his focuses of research on shell and spatial structure is mimicking idea or inspiration from nature for possible application to the structural system of shell and spatial structures. Apart from shell and spatial structures, Dr. Choong also carries out joint research with industry on structural solution using precast concrete technology.

Topic: “Process Analytical Technologies in Food Processing”

Abstract: In comparison with cast-in-situ concrete technology, we can achieve better quality control over quality of concrete members to be cast. Furthermore, we can also achieve a site condition which is more orderly. With careful planning right from the casting stage until final erection with due consideration of the site condition, precast concrete technology is a highly effective solution for construction projects of diverse nature. This lecture will highlight through several real construction projects, the attractiveness of precast concrete technology as alternative method of construction. The important aspects of mould design with special attention to ease of demoulding, handling at site, casting yard-to-construction site transportation consideration, ease of handling and erection at site, which are crucial for successful and on-time completion of the construction work will be highlighted.

Plenary Speaker I

Prof. Anja Pfennig
HTW Berlin (University of Applied Sciences Berlin), Germany

A. Pfennig was born in Büdelsdorf, Germany in 1970. She studied Minerology at the Rheinische Friedrich Wilhelms University Bonn, Germany, where she graduated in 1997. Her Ph.-D. in the field of ceramic moulds for liquid metal casting was earned in 2001 from the Friedrich Alexander University of Erlangen, Germany. She then worked for Siemens Energy in charge of ceramic shields for stationary gas turbines and transferred to Berlin in 2008 where she conducted scientific research on the oxidation of high temperature materials and corrosion behavior of steels used in Carbon Capture Techniques. 2009 she became full professor at the Applied University Berlin, HTW where she currently teaches material science for engineering students. Anja Pfennigs research interest and expertise is in the field of corrosion fatigue of materials at high temperature and high pressure simulating geothermal environments

Topic: “Corrosion Issues and Material Selection for Downhole Geothermal Environments”

Abstract: Pipe steels suitable for carbon capture and storage technology (CCS) require resistance against the corrosive environment of a potential CCS-site (heat, pressure, salinity of the aquifer, CO_2-partial pressure). X5CrNiCuNb16-4 has been proven to be sufficient resistant in corrosive environments, but shows rather unusual corrosion behaviour in CCS environment. Therefore differently heat treated coupons of 1.4542 were kept at T=60 ℃ and ambient pressure as well as p=100 bar for 700 h - 8000 h in an a) water saturated supercritical CO_2 and b) CO_2-saturated synthetic aquifer environment similar to on-shore CCS-sites in the Northern German Basin. Additionally fatigue tests were performed via push-pull tests with a series of 30 specimens was tested at stress amplitudes between 150 MPa and 500 MPa (sinusoidal dynamic test loads, R=-1; resonant frequency ~ 30 Hz). Best corrosion resistance in the liquid phase is achieved via normalizing prior to exposure and hardening+tempering at 670 ℃ leads to lowest corrosion rates in the supercritical phase. With no regard to atmosphere discontinuously ellipsoidal surface corrosion regions appear after exposure of 4000 h and more. The endurance limit of X5CrNiCuNb16-4 measured in air is reduced by more than 50% when exposed to CCS environment (maximum number of cycles (10×10^6) at a stress amplitude of 150 MPa) The scatter range TN = 1:34 is disproportionately large contributing to an overall unusual corrosion behavior.

Plenary Speaker II

Prof. Beng Ong
California State University, Fresno, USA

Beng Ong is currently a Professor of Marketing at California State University, Fresno, and the Director of the Craig School of Business Honors Program. Ong holds a Ph.D. in Business from University of Arkansas. Beng Ong has over 20 years of market research consulting experience, and has conducted branding, advertising, and behavioral research for a number of corporations, government agencies, advertising, and public relations firms, as well as worldwide top syndicated research suppliers. He has served as Sr. Market Research Manager at Insight Express, Analyst at AIS Market Research, and as Director of Arkansas Household Research Panel, and held Visiting positions at Microsoft Indonesia, Saatchi & Saatchi Advertising, and NetApps Malaysia. Professor Ong has researched, written, and presented in the area of online customer reviews, social media, pricing & promotions, product/brand placements, online education, and environmental sustainability.

Topic: "Environmentally Sustainable Healthcare Initiatives: Sourcing Renewable Energy, Reducing Energy Consumption, and Offering Tele-Health"

Abstract: Hospitals and medical centers are high energy users; thus, reducing energy consumption, increasing energy efficiency in hospital buildings, equipment, systems, as well as sourcing more renewable energy present opportunities for cost savings and contributing to environmental sustainability. Reducing carbon emissions, striving for a greener supply chain, and engaging in other more sustainable practices would help healthcare systems reduce their pollution footprints (i.e., from greenhouse gas emissions, pollutants from vehicle emissions, toxic and non-toxic waste, etc.) and facilitate the hospitals' and medical centers' shift to "preventive care." Sustainable practices are part of organizations' goals in Corporate Social Responsibility (CSR).

On reducing energy use and shifting to cleaner energy, while "demand-side management" may be up and ready for the challenge, changes in the "supply-side management" are needed for sustainability goals to be achieved. Supply-side initiatives needed include deregulation of power suppliers in conjunction with new procurement strategies, and on-site energy co-generation (Practice Greenhealth). The more promising renewable energy sources are solar, wind, biomass, and geothermal. Shifting to these cleaner energy sources may have been slowed by current low prices of fossil fuels and "fracked" natural gas.

The U.S. Health Resources and Services Administration (HRSA.gov) defines tele-health as the use of electronic communication and information technologies to provide or support long-distance clinical health care, patient and professional health-related education, public health, and health administration. A number of case studies have shown the reduction in travel miles and carbon emissions where some healthcare services (including patient monitoring) were rendered electronically. Behavioral health care is one potential area where more shifts from face-to-face consultations to videoconferencing is highly feasible. Technology such as Skype, Microsoft's Kinect game system, and wearables such as Fitbit can, and, in some cases, have been adopted for tele-health use. Healthcare education could be conducted online cost-effectively, and would be consistent with healthcare management's shift to the concept of preventive care. Tele-health and tele-medicine are expected to increasingly contribute to healthcare organizations' goals on reducing their adverse eco-footprints.

Brief Schedule for Conference

<table>
<tr><td>Day 1</td><td colspan="2">January 8, 2017 (Sunday) 10:00~17:00
Venue: School of Humanities Conference Room
Arrival Registration
14:00~16:30 Committees’ conference</td></tr>
<tr><td rowspan="9">Day 2</td><td colspan="2">January 9, 2017 (Monday) 9:00~17:50
Venue: School of Humanities Conference Room
Arrival Registration, Keynote Speeches, and Conference Presentations</td></tr>
<tr><td colspan="2">Morning Conference</td></tr>
<tr><td colspan="2">Venue: School of Humanities Conference Room
Welcoming Speech 9:00~9:10
Opening Address 9:10~9:25
Keynote Speech I 9:25~10:00
Keynote Speech II 10:00~10:35
Coffee Break & Photo Taking 10:35~11:00
Plenary Speech I 11:00~11:30
Plenary Speech II 11:30~12:00</td></tr>
<tr><td colspan="2">Lunch 12:00~13:30
Venue: Humanities Pantry Room</td></tr>
<tr><td colspan="2">Afternoon Conference</td></tr>
<tr><td>Session 1:13:30~15:00
Venue: School of Humanities Conference Room
6 presentations-Topic: “Climate Change and Humanity”</td><td>Session 2: 13:30~15:00
Venue: School of Humanities Seminar Room II
6 presentations-Topic: “Geological and Civil Engineering”</td></tr>
<tr><td colspan="2">Coffee Break 15:00~15:20</td></tr>
<tr><td>Session 3: 15:20~17:50
Venue: School of Humanities Conference Room
10 presentations-Topic: “Environmental and Biological Engineering”</td><td>Session 4: 15:20~17:35
Venue: School of Humanities Seminar Room II
9 presentations-Topic: “Energy Science and Engineering”</td></tr>
<tr><td colspan="2">Poster session: 9:00~17:50
Venue: School of Humanities Conference Room</td></tr>
<tr><td colspan="2">Dinner:18:00
Venue: Humanities Pantry Room</td></tr>
<tr><td>Day 3</td><td colspan="2">January 10, 2017 (Tuesday) 9:00~17:00
Half Day Academic Visit and Half Day City Tour</td></tr>
</table>

Tips: Please arrive at conference room 10 minutes before the session beginning to upload PPT into conference laptop.

Detailed Schedule for Conference

January 8, 2017 (Sunday)
Venue: School of Humanities Conference Room

10:00-17:00	**Arrival and Registration**
14:00-16:30	**Committees' conference**

Note: (1) The registration can also be done at any time during the conference.
(2) The organizer doesn't provide accommodation, and we suggest you make an early reservation.
(3) One best oral presentation will be selected from each oral presentation session, and the Certificate for Best Oral Presentation will be awarded at the end of each session on January 9 2017.

Morning, January 9, 2017 (Monday)
Venue: School of Humanities Conference Room

9:00~9:10		**Welcoming Speech** Prof. Chan Ngai Weng School of Humanities, Universiti Sains Malaysia, Malaysia
9:10~9:25		**Opening Address** Prof. Dr Narimah Samat, Dean of School of Humanities, Universiti Sains Malaysia , Malaysia Topic: "Using EPS geofoam as a geo-material in geotechnical construction"
9:25~10:00		**Keynote Speech I** Prof. Ngai Weng Chan School of Humanities, Universiti Sains Malaysia, Malaysia Topic: "Urbanization, Climate Change and Cities: Challenges and Opportunities for Sustainable Development"
10:00~10:35		**Keynote Speech II** Assoc. Prof. Choong Kok Keong School of Civil Engineering, Engineering Campus, Universiti Sains Malaysia, Malaysia Topic: "Structural Engineering Solution Inspired by Nature"
10:35~11:00	**Coffee Break & Photo Taking**	

11:00~11:30		**Plenary Speaker I** Prof. Anja Pfennig HTW Berlin (University of Applied Sciences Berlin), Germany Topic: "Corrosion Issues and Material Selection for Downhole Geothermal Environments"
11:30~12:00		**Plenary Speaker II** Prof. Beng Ong California State University, Fresno, USA Topic: "Environmentally Sustainable Healthcare Initiatives: Sourcing Renewable Energy, Reducing Energy Consumption, and Offering Tele-Health"
12:00~13:30		**Lunch** **Venue: Humanities Pantry Room**

Let's move to the Sessions!

Session 1

Tips: The schedule for each presentation is for reference only. In case of missing your presentation, we strongly suggest that you attend the whole session.

Afternoon, January 9, 2017 (Monday)

Time: 13:30~15:00

Venue: School of Humanities Conference Room

Session 1: 6 presentations-Topic: "Climate Change and Humanity"

Session Chair: Prof. Ngai Weng Chan

B0018 Presentation 1 (13:30~13:45)

Application of Geographic Information System (GIS) in Hydropower Resource Assessment: A Case Study in Misamis Occidental, Philippines

Rovick Tarife, **Anacita Tahud**, Ellen Jane Gulben, Haroun Al Raschid Christopher Macalisang, and Ma. Teresa Ignacio

Mindanao State University, Philippines

Abstract—This study focuses on the application of Geographical Information Systems (GIS) tools in identifying and classifying the theoretical hydropower potential sites in Misamis Occidental, a province located in the region of Northern Mindanao in the Philippines. GIS based hydrological modeling is performed on raster cells using topographical and meteorological datasets. Input datasets include Digital Elevation Model (DEM), landuse-landcover, soil map, watershed boundary, weather data (precipitation, humidity and temperature). The study has shown that 62% of the potential sites are classified as micro hydropower (5Kw-100Kw potential capacity) and 38% are classified as pico (less than 5Kw). The results of this study will help policy makers, public authorities, and investors in the energy sector to optimize the available resources in selecting the suitable sites for small hydropower plants with high power potential.

Afternoon, January 9, 2017 (Monday)

Time: 13:30~15:00

Venue: School of Humanities Conference Room

Session 1: 6 presentations-Topic: "Climate Change and Humanity"

Session Chair: Prof. Ngai Weng Chan

B2006 Presentation 2 (13:45~14:00)

Climate Change Impacts on Energy Demand of Madrid Buildings

Roberto San Jose, Juan Luis Pérez, Libia Pérez, and Rosa Maria Gonzalez

Technical University of Madrid (UPM), Spain

Abstract—The future impacts of climate change on heating and cooling energy demand were investigate by building energy demand simulations by EnergyPlus model and hourly climate data for two IPCC scenarios: RCP 4.5 (stabilization emission scenario) and RCP 8.5 (little effort to reduce emissions). The climate scenarios have been downscaled from 1 º to 50 meters of spatial resolution over city of Madrid. A Madrid typical 1km by 1km area of buildings is simulated using detailed meteorological information for each building produced by a dynamical downscaling process taking into account the 3D shape of the buildings, for years 2011 and 2100. Three types of buildings were identified: offices, hotels and apartments. The three prototypes are based on ASHRAE 90.1 Prototype Building Modeling Specifications but major characteristics have been adapted for each specific simulated building. We analyze the changes (%) in energy demand for the heating (gas) and electricity (HVAC system) for year 2100 versus 2011.The results show an increase in cooling demand around 10.5% by 2100 with RCP 8.5. The annual heating gas demand for office buildings will increase by 64.4% while the cooling energy demand will fall by 7.8% with the RCP 4.5 because future will be cooler that the present. The results show that climate change will have a large effect in the building energy demand and the used methodology can be used to design strategies to reduce the effects of climate change.

Afternoon, January 9, 2017 (Monday)

Time: 13:30~15:00

Venue: School of Humanities Conference Room

Session 1: 6 presentations-Topic: "Climate Change and Humanity"

Session Chair: Prof. Ngai Weng Chan

T0001 Presentation 3 (14:00~14:15)

Fighting and Adapting to Climate Change in a Developing Country: Turkish Case

Neslihan Kul öz ü

ATATURK UNIVERSTY, TURKEY

Abstract—This study aims to present the history of fighting and adapting to climate change of Turkey, as a developing country. It is obvious that climate change is a problem to be solved only with global participation. However, implementation of global policies is associated closely with national, regional and local policy processes. Therefore, climate policies acquire their shapes as the result of a multi – level process leading from international to local level and the matter cannot be evaluated in a global abstraction.

In order to achieve the aim determined in the present study, its emphasis should be on the policies and actions have been taken to fight and adapt climate change in Turkish case. Additionally, institutional changes will be focused parallel to changes in the actions and policies. Therefore, within the context of the present study after a short introduction about climate change, first contextual settings of Turkey will be presented. Second, policies and actions against climate change will be presented from a historical perspective in two parts before and after being part of United Nations Framework Convention on Climate Change (UNFCCC) in 2004. And parallel to that institutional restructuring related to climate change also discussed. Through this way, the effects of institutional changes at a national level to climate policies and actions will also be discussed. To reach its aim the study is conducted document analysis by using secondary sources such as the related literature, national climate change reports, climate change strategy and action plans that have been produced by the related ministries.

Afternoon, January 9, 2017 (Monday)

Time: 13:30~15:00

Venue: School of Humanities Conference Room

Session 1: 6 presentations-Topic: "Climate Change and Humanity"

Session Chair: Prof. Ngai Weng Chan

T0003 Presentation 4 (14:15~14:30)

Moroccan Forest ecosystem services and local populations

Mohammed Sghir Taleb

Institut Scientifique, Mohammed 5 University in Rabat, Morocco

Abstract—Located at the northwest corner of the African continent between 21 ° and 36 ° north latitude and between the 1st and the 17th degree of west longitude, Morocco with a total area of 715,000 km2 enjoys a privileged position with a coastline of 3 446 km long opening to the Mediterranean and the Atlantic Ocean.

Its privileged location with a double coastline and its diverse mountain with four major mountain ranges: the Rif, Middle Atlas, High Atlas and Anti Atlas with altitudes exceeding 2000 m in the Rif, 3000 m in the Middle Atlas and 4000 m in the High Atlas.

Morocco is characterized by an important forest genetic diversity represented by a rich and varied flora and many ecosystems: forest, preforest, presteppe, steppe, Sahara that spans a range of bioclimatic zones: arid, semiarid, subhumid, and humid.

The vascular flora of Morocco has 3913 species and subspecies in 1298 (including 426 sub-species types), distributed among 155 families and 981 genera. The number of endemic species amounted to 640 (16%) and 280 subspecies (32%). The rare or endangered flora species is estimated to be 463 and 1284 subspecies.

Forest species and ecosystems provide important services to populations represented by grazing, timber harvest, harvesting of medicinal and aromatic plants..

This presentation will be focused on the Moroccan flora and forest ecosystem services and on the interaction between local populations and ecosystems and the dynamics of natural ecosystems under the impact of climate and environmental change.

Afternoon, January 9, 2017 (Monday)

Time: 13:30~15:00

Venue: School of Humanities Conference Room

Session 1: 6 presentations-Topic: "Climate Change and Humanity"

Session Chair: Prof. Ngai Weng Chan

T0005 Presentation 5 (14:30~14:45)

Remotely Sensed Data Segmentation and Classification in Bacolod City, Negros Occidental using DSM Slope as an Additional Layer and Kappa Analysis of Error Matrix

Julie Ann Antolihao, *Alexis Marie de La Serna and Judith Silapan*

University of the Philippines Cebu Phil-LiDAR 2

Abstract—A land use land cover (LULC) map aids in determining the extent of various land uses and land cover types as well as in assessing the impacts from hazards like flood. However, poor segmentation and classification lead to a less accurate and less reliable map. This paper aims to examine and assess the effect of using the Digital Surface Model Slope (DSM Slope) as an additional layer to the analysis of accuracy. The LiDAR-based datasets used were Canopy Height Model (CHM), Digital Surface Model (DSM), Digital Terrain Model (DTM), Intensity, and the slope of Digital Surface Model (DSM Slope). Two methods were performed and a series of Kappa analysis test of significance was conducted for comparison purposes. The two error matrices produced by the two methods were then analyzed. It was determined that the two methods produced classifications which were significantly better than a random result as well as significantly different from each other. Furthermore, the method that used DSM Slope as an additional layer produced a promising result with higher overall accuracy and Kappa index of agreement (KIA) compared to the method with no DSM Slope for this particular study. The land use land cover map produced with higher accuracy can still be refined and can be used in management and planning purposes.

Afternoon, January 9, 2017 (Monday)

Time: 13:30~15:00

Venue: School of Humanities Conference Room

Session 1: 6 presentations-Topic: "Climate Change and Humanity"

Session Chair: Prof. Ngai Weng Chan

T0007 Presentation 6 (14:45~15:00)

Comparison of Different SVM Classification Techniques: An Application of Agricultural Resources Extraction in Victorias City, Negros Occidental

Cristina Samonte, Alma Mae Bernales, Alexis Marie de La Serna, Julie Ann Antolihao and Judith Silapan

University of the Philippines Cebu Phil-LiDAR 2

Abstract—Not all features or attributes can be very helpful in image classification for all data. Inclusion of features that are irrelevant and redundant in the classification process may cripple the predictive accuracy of the model and may slow down the processing time. This paper aims to show that feature selection improves the training time, application time and accuracy of the project, compare the classification results of Support Vector Machine (SVM) with and without the use of feature selection in terms of training time and application time, as well as compare the different feature selection methods in Weka. By performing the experiments, it was found that the selection of attributes is critically important because through this process, the problem is meaningfully and successfully modeled. Moreover, with the help of feature selection, training time and processing time are lessened, and accuracy is improved thus, getting the most out of the data that is available.

Session 2

Tips: The schedule for each presentation is for reference only. In case of missing your presentation, we strongly suggest that you attend the whole session.

Afternoon, January 9, 2017 (Monday)

Time: 13:30~15:00

Venue: School of Humanities Seminar Room II

Session 2: 6 presentations-Topic: "Geological and Civil Engineering"

Session Chair: Assoc. Prof. Choong Kok Keong

G0005 Presentation 1 (13:30~13:45)

An Upper Bound Limit Analysis to Determine the Stability of Slope Considering the Effect of Earthquake

Hai Nguyen Le and An N. Chau

Ho Chi Minh City University of Technology, Vietnam

Abstract—The cell-based smoothed finite element method (CS-FEM) and second order cone programming (SOCP) are used to access the seismic stability of slope in cohesive-frictional soil. In this study, the seismic force will be considered as the inertial load which calculated through horizontal acceleration factor α_h. The stability factor is expressed in the form of a dimensionless number $\gamma_{max}Htan\phi/c$; where H is the slope height, γ_{max} and c are the maximum unit weight and cohesion of soil, respectively. In addition, the failure mechanisms of slope will be obtained directly from solving the optimization problems. A series of simulations are carried out and the results confirm that this numerical procedure provides stable and accurate solutions to seismic stabilities in compare with those using finite element method as well as the influence of the properties of soil to the slope stability.

Afternoon, January 9, 2017 (Monday)

Time: 13:30~15:00

Venue: School of Humanities Seminar Room II

Session 2: 6 presentations-Topic: "Geological and Civil Engineering"

Session Chair: Assoc. Prof. Choong Kok Keong

G1001 Presentation 2 (13:45~14:00)

Sudanese Sugar cane Bagasse Ash: A valuable by-Product for Concrete

Asma Abd Elhameed Hussein, N. Shafiq, and M. F. Nuruddin

Omdurman Islamic University, Sudan

Abstract—Agricultural and industrial by-products are commonly used in concrete production as cement replacement materials or as admixtures to enhance the fresh and hardened properties of concrete as well as to minimize the negative environmental effects. Sugar Cane Bagasse Ash (SCBA) is one of the promising cement replacement materials, which potentially be used as a partial replacement of cement for producing concrete; properties of such concrete depend on the chemical composition, fineness, and burning temperature of SCBA. Approximately 1800 Million tons of sugarcane are annually produced all over the world, which leaves about 40-45% bagasse after juice extraction in sugar mills yielded an average annual production of about 700 Million tons of bagasse as a waste material. In this study the SCBA was incorporated in concrete from 5% to 50% by weight of cement. Effect of SCBA on workability, compressive strength, splitting tensile strength and bond strength of concrete was investigated. The results showed that incorporation of SCBA in concrete as partial replacement for cement up to 30% significantly enhanced the mechanical properties of concrete.

Afternoon, January 9, 2017 (Monday)

Time: 13:30~15:00

Venue: School of Humanities Seminar Room II

Session 2: 6 presentations-Topic: "Geological and Civil Engineering"

Session Chair: Assoc. Prof. Choong Kok Keong

G1002 Presentation 3 (14:00~14:15)

Sulfur-Asphalt Site Construction Trial in Kuwait

Salah E. Zoorob and Suad K. Al-Bahar

Kuwait Institute for Scientific Research, Kuwait

Abstract—A full scale trial into the use of sulfur-extended hot mix asphalt was carried out on a full depth 2 lane access road South of Kuwait City in June 2015. The road is composed of wearing, binder and base course hot mix asphalt layers all in compliance with Ministry of Public Works mix gradation specifications. Four binder types were assessed; 60/70pen grade Kuwaiti bitumen, 2% EVA polymer modified binder, 60/70pen modified with locally produced sulfur and 60/70pen modified with Shell Thiopave pellets. The trial road was divided into six longitudinal sections to facilitate direct comparison of the performance of the various binders types. Full depth cores were extracted for testing from each of the six sections soon after the completion of construction and after 1 year of opening to traffic. The paper includes details of the site layout, granular subbase and asphalt compaction, variation in asphalt mix density and voids, indirect tensile stiffness determinations, moisture conditioning and wheel tracking tests. Overall, both sulfur extended asphalt mixes performed better than the conventional 60/70pen mix, in particular with respect to stiffness and creep performance. Significantly, compared to the 60/70pen mix, the sulfur-extended mixes ageing with time could not be explained entirely by environmental exposure related oxidative hardening mechanisms.

Afternoon, January 9, 2017 (Monday)

Time: 13:30~15:00

Venue: School of Humanities Seminar Room II

Session 2: 6 presentations-Topic: "Geological and Civil Engineering"

Session Chair: Assoc. Prof. Choong Kok Keong

G0007 Presentation 4 (14:15~14:30)

Study on the Utilization of Innovative Air-cooled Slag Aggregates in Precast Concrete

Irfanullah Irfan, Hiroyuki Tobo, Yasutaka Ta, and Shigeyuki Date

Tokai University, Japan

Abstract—Blast furnace slag is a nonmetallic material produced from a molten state together with pig iron in a blast furnace. Air-cooled blast furnace slag is produced through a relatively slow solidification of molten slag under ambient conditions, resulting in a porous crystalline material that absorbs a great amount of water. As per the records of 2014 in Japan, around 3,572 kilotons of air-cooled slag was mainly used as a roadbed material whereas only 329 kilotons of it was utilized as a coarse aggregate for concrete. However, a reduced porosity air-cooled slag aggregate (PACSS's aggregate) has been recently developed through a process of plate-shaped slag solidification that results a decrease in porosity and a considerably lower rate of water absorption, which is almost comparable to that of natural aggregate. This paper evaluates PACSS's aggregate's suitability as a coarse aggregate for use in precast concrete. The obtained results demonstrate that, a couple of physical properties of PACSS's aggregate are almost comparable to those of limestone aggregate. The results also indicate that, concrete produced with PACSS's aggregate carries greater mechanical properties and almost identical fresh properties as compared to those created with limestone aggregate and sandstone aggregate. Similarly, the freeze-thaw durability of concrete made with PACSS's aggregate was observed to be slightly larger than those produced with conventional aggregates.

Afternoon, January 9, 2017 (Monday)

Time: 13:30~15:00

Venue: School of Humanities Seminar Room II

Session 2: 6 presentations-Topic: "Geological and Civil Engineering"

Session Chair: Assoc. Prof. Choong Kok Keong

G0009 Presentation 5 (14:30~14:45)

A One-Dimension Kinematic Hardening Model Based on Continuous Hyperplasticity

Hai. Than-Nguyen and Lam. Nguyen-Sy

Ho Chi minh City University of Technology, Vietnam

Abstract—This paper presents a one-dimension kinematic hardening model based on continuous hyperplasticity with infinite number of yield surface. Continuous hyperplasticity is a development of hyperplasticity theory, an approach to plasticity theory based on thermodynamics principles. It gives ability to develop many sophisticated engineering models that can describe more realistic behavior. In order to apply to numerical analysis, the discretization from infinite number of yield surface to multiple-yield-surface is shown. Applications to 1-D Finite element model using rate-dependent solution will be mentioned in this paper. The results show that this is a promising theory that can be describe nonlinear elasto-plastic response of material. By a suitable choice of some parameters, realistic behavior of a model can be derive.

Afternoon, January 9, 2017 (Monday)

Time: 13:30~15:00

Venue: School of Humanities Seminar Room II

Session 2: 6 presentations-Topic: "Geological and Civil Engineering"

Session Chair: Assoc. Prof. Choong Kok Keong

G2001 Presentation 6 (14:45~15:00)

Evaluation of Water Exchange between Anzali Lagoon and Coastal Waters of the Caspian Sea via Connecting Channel, North of Iran

Siamak Jamshidi

Iranian National Institute for Oceanography and Atmospheric Science(INIOAS), Iran

Abstract—Anzali Lagoon is a coastal liman, or wetland in the Caspian Sea near Anzali Port, in the northern Iranian province of Guilan. The lagoon divides Anzali city into two parts. Water exchange phenomenon and physical properties of seawater along connecting channel between the Caspian Sea and Anzali Lagoon were assessed. The research was based on field observation on 6 sampling stations during warm and cold seasons. Observations were performed by a portable CTD Ocean Seven 316 probe. The parameters ranges in the warm and cold seasons were different. Based on data, water temperature in vertical direction changed between 27.5-25 centigrade in June and it ranged between 9.3-7.5 centigrade in February. Mean values of water salinity in cold season were less than that in warm season in the Anzali Lagoon connecting channel. Variations of salinity were around 12 psu in warm season while salinity values in cold season observed about 7.5 psu. According to high correlation between seawater density and temperature in the Lagoon connecting channel as well as the Caspian Sea, vertical structures of water density and temperature were in agreement.

15:00-15:20	Coffee Break

Session 3

Tips: The schedule for each presentation is for reference only. In case of missing your presentation, we strongly suggest that you attend the whole session.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:50

Venue: School of Humanities Conference Room

Session 3: 10 presentations-Topic: "Environmental and Biological Engineering"

Session Chair: Assoc. Prof. Daehwan Kim

B0001 Presentation 1 (15:20~15:35)

DPSIR-Based, Low-Frequency, Early Warning Signals for the Marine Social-Ecological System of Geumgang Estuary, South Korea

Daehwan Kim and Dongki Min

Konkuk University, South Korea

Abstract—This paper presents a set of low-frequency indicators for the marine social-ecological system of Gumgang Estuary, South Korea. The indicators are designed to show human-environment interaction in the driver-pressure-state-impact-response (DPSIR) framework. Out of these indicators, early warning signals are constructed for detecting significant deterioration in the state of, and the human impact on, environment. This paper develops a set of indicators within the DPSIR framework. Recently, Perry and Masson ["An Integrated analysis of the marine social-ecological system of the Strait of Georgia, Canada, over the past four decades, and development of a regime shift index," Progress in Oceanograpy, 2013] have shown that, out of DPSIR indicators, a regime-shift index can be extracted; such index represents the probability of a regime shift occurring in the current year. While this index is a useful summary measure of the indicators, one limitation for real-world implementation is clear: the index does not distinguish between improvement and deterioration. A high index value says that a change is likely to occur, but it does not say whether the impending change is beneficial or harmful to the marine social-ecological system. To put it another way, one cannot use the regime shift index as an early warning signal. The

paper proposes a modification of Perry and Masson's regime shift index calculation methodology so that it is possible to obtain early warning signals. A high-value signal suggests a high likelihood of a harmful change. Mutliple signals can be combined into a single number using the basic rule of probability. The modification includes determining whether a break point is associated with either "improvement" or "deterioration," and also the adoption of the ordered multinomial logit. The paper discusses in-sample and out-of-sample performance of our proposed early warning signals.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:50

Venue: School of Humanities Conference Room

Session 3: 10 presentations-Topic: "Environmental and Biological Engineering"

Session Chair: Assoc. Prof. Daehwan Kim

B0002 Presentation 2 (15:35~15:50)

Effect of Organic Matter on Struvite Formation from Animal Waste

Amy Silchuk, Sanjai Parikhkate, Kate Scow, Young Kim, Yongsuk Hong, Jae Woo Lee, and **Sungpyo Kim**

Korea University, Korea

Abstract—Phosphorus is one of the most important components of fertilizer and is a limiting resource. Although high concentrations of phosphorus are found in dairy waste, the majority of this resource is mismanaged and cannot be recovered as a valuable resource. One way to reuse phosphorus from dairy waste is through the formation of solid struvite, which contains an equivalents amount of ammonium, magnesium and phosphorus and it can be used as a slow release valuable fertilizer. However, a number of studies have shown that forming struvite from dairy waste is a challenge because of calcium competition during formation, high-suspended solid concentration , and high ionic strength in manure, etc. Although several inhibitory effects of inorganic substance to struvite crystallization have been documented, a few studies have been conducted to show that organic matter, like cellulose and xylan, interferes with struvite crystallization. Cellulose and xylan are the most abundant organic matter in dairy waste and may interact with the inorganic ions present, which could result in poor struvite precipitation. Therefore, the objective of this study is to estimate the inhibitory effect of cellulose and xylan on the struvite precipitation as a function of organic matter concentrations, Ph levels, and magnesium to phosphorous ratio. Preliminary results show that cellulose and xylan have different effects on the formation of struvite. For instance, regardless of cellulose concentration, the removal of ammonium from the liquid phase was almost consistent when struvite was formed as Ph increased, whereas, xylan reduced the removal of ammonium. In contrast, an opposite trend occurred for the removal of phosphorus with cellulose and xylan when magnesium was not sufficiently supplied.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:50

Venue: School of Humanities Conference Room

Session 3: 10 presentations-Topic: "Environmental and Biological Engineering"

Session Chair: Assoc. Prof. Daehwan Kim

B0004 Presentation 3 (15:50~16:05)

Evaluation of Education Building for Green Roof Construction in Maejo University, Chiang Mai, Thailand

Chollatip Jalanugroh and Nachawit Tikul

Maejo University, Thailand

Abstract—This research evaluate the potential of education buildings in Maejo University to be constructed with green roof. There are 4 main factors to be considered in this research, include of; building and roof's structure, roof's slope and materials, roof's space and accessibility, and the ability of management and maintenance. The result shows that, from twenty six education building, three can be built intensive green roof immediately, seven can be built but gardeners are needed and sixteen can be built with extensive green roof.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:50

Venue: School of Humanities Conference Room

Session 3: 10 presentations-Topic: "Environmental and Biological Engineering"

Session Chair: Assoc. Prof. Daehwan Kim

B0006 Presentation 4 (16:05~16:20)

A Study on Characteristics of Emitted Odor in Poultry Digesting Reactor and Burial in Various Operative Conditions

Yuhoon Yeum, Kyungjin Han, Ohkyung Choi, Sungpyo Kim, Jaewoo Lee, **Yongsuk Hong**, and Young Kim

Korea University, Korea

Abstract—Burying and digesting carcass is of great interest recently because of its low operation cost, capability of producing useful fertilizer and eco-friendly aspect rather than incineration. However, since there has been increase in civil appeals related with bad odor from poultry carcass digesting burial, the characteristics of odor and cost-effective method of reducing bad odor have been required. In this study, we characterize operation factors for poultry carcass digestion from three laboratory-scale reactors, such as aerobic-thermophilic, semi-aerobic, and anaerobic conditions, and two pilot-scale on-site aerobic and anaerobic burial by monitoring bad odor components to derive best operative conditions to reduce emitting bad odor. In a 100-day laboratory-scale reactor and 165-day pilot scale burial study, hydrogen sulfide were detected below regulative concentration in whole reactor and burial for monitoring period. Methyl mercaptane, dimethyl sulfide, dimethyl disulfide were detected highly over regulative concentration and gradually decreased till the end of monitoring. It was found that there were not prominent differences in odor concentration profile among various oxygen condition reactors. It is considered that on-site bad odor reducing facilities are in important role in reducing bad odor rather than operation factors.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:50

Venue: School of Humanities Conference Room

Session 3: 10 presentations-Topic: "Environmental and Biological Engineering"

Session Chair: Assoc. Prof. Daehwan Kim

B1001 Presentation 5 (16:20~16:35)

Effect of Ambient Air Temperature on the Performance of Steam Generator

Hadyan Fahad Alajmi

KOC, Kuwait

Abstract—The aim of this research is to investigate the effect of ambient air temperature on the steam generation. A parametric study was performed based on exergy analysis to study the impact of ambient air temperature on second law of efficiency, irreversibility and adiabatic flame temperature of steam generation. The results showed that at 25 percent excess air and with the range of ambient air temperature from 25 ^{o}C to 100 ^{o}C, the adiabatic flame temperature increases from 2015 ^{o}C to 2065 ^{o}C. Also the results showed that the second law efficiency and irreversibility ranges from 40.295% to 40.290% and 494.063 MJ to 494.161 MJ, respectively as the ambient air temperature increases from 25 ^{o}C to 100 ^{o}C. It is included that the ambient air temperature has a minimum impact on adiabatic flame temperature and insignificant impact on both the second law efficiency and irreversibility of overall steam generation. Also the combustion chamber and heat transfer sections of steam generation were studied by using exergy analysis. It was concluded that the ambient air temperature has a minimum impact on both combustion chamber and heat transfer sections.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:50

Venue: School of Humanities Conference Room

Session 3: 10 presentations-Topic: "Environmental and Biological Engineering"

Session Chair: Assoc. Prof. Daehwan Kim

T3002 Presentation 6 (16:35~16:50)

Analysis of PM2.5 and Ozone effects of air pollutants on nature and human wellness: A Case Study of Urban Development in East Asia

Masasumi Ao, Ken Yamashita, Shuhei Ohno, Zhu Meihua

Yokohama-city University, Japan

Abstract—In this report, we focused on the atmospheric pollutant PM2.5 and Ozone in East Asia. We analyzed monitoring data (2000~2014) from the East Asia Acid Rain Monitoring Network (EANET) and considered the influence on environment and health through long-distance transportation led by Japan, Korea, China, any other East Asia. The most serious direct damage is mostly caused by very fine particles - usually referred to as PM2.5. Some of these particles are formed and released as a result of combustion processes, while some of them are so-called secondary particles—sulphates and nitrates formed by chemical reactions in the atmosphere. The precursors to those secondary particles are sulphur dioxide, nitrogen oxides and ammonia, i.e. the same pollutants that are responsible for acidification. Elevated levels of ozone also constitute a significant health problem over large parts of East Asia, especially from the spring to the summer. We must not downplay ozone increase in Thailand, Vietnam, Indonesia and Malaysia. Comprehensive research has been pursued in recent years in line with these social requirements. In our study, as the first step, we analyzed the monitoring data of Acid Deposition Monitoring Network in East Asia (EANET) with WHO air quality standards, USEPA and Japanese Environmental Standard, so that we could obtain data on air pollution at levels harmful to human health.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:50

Venue: School of Humanities Conference Room

Session 3: 10 presentations-Topic: "Environmental and Biological Engineering"

Session Chair: Assoc. Prof. Daehwan Kim

B3008 Presentation 7 (16:50~17:05)

Preliminary Study of Airborne Fungal Concentrations in Elderly People'S Houses in South Korea

Cheolwoon Woo, Andrea McDowell, Sungkyoon Kim, and Naomichi Yamamoto

Seoul National University, South Korea

Abstract—Previous studies have repeatedly revealed associations between indoor fungi and a number of disease responses, such as infectious, allergic and toxic effects. Certain groups such as infants, children and elderly people are at higher risk of developing more severe symptoms sooner than other groups. However, there is very limited data reported on the impact of indoor fungal concentrations and their health effects on elderly people in South Korea. Therefore, this study focused on assessing the airborne fungal concentrations in the houses of elderly citizens living alone in Chuncheon, South Korea. 88 samples were collected in 22 houses. Fungi incubated at 25℃ showed concentration ranges from 153 CFU/m^3 to 18572 CFU/m^3(median:1164 CFU/m^3). Meanwhile, fungal samples incubated at 37℃ resulted in concentration ranges from 7 CFU/m^3 to 4185 CFU/m^3(median:57 CFU/m^3). Furthermore, our aim was to reveal what factors may have contributed most significantly to higher levels of airborne fungal pollution concentrations. Using a linear mixed effects model, cleaning ($p=0.0042$) was determined to be the most significant factor that affects the indoor airborne fungal concentration while indoor humidity ($p=0.0477$) was determined to have the most significant impact on the presence of potential human pathogenic fungi. In light of the results of this study, elderly people should be aware of the importance of monitoring indoor humidity levels and regular cleaning in order to reduce the airborne fungal contamination in their homes and maintain a healthy living environment.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:50

Venue: School of Humanities Conference Room

Session 3: 10 presentations-Topic: "Environmental and Biological Engineering"

Session Chair: Assoc. Prof. Daehwan Kim

B3009 Presentation 8 (17:05~17:20)

Selected Heavy Metals in Penaeus vannamei (White Prawn) in Aquaculture Pond near Likas Lagoon, Sabah, Malaysia

Wei Peng Lee, Carolyn Payus, Siti Aishah Mohd Ali, and Leong Wan Vun

Universiti Malaysia Sabah, Malaysia

Abstract—The issue of heavy metal toxicity has received considerable attention in aquaculture field. Most studies of heavy metal in aquaculture have only focused on fish species and molluscs but not prawn. Thus, the key research objective of this study is to identify and study selected heavy metals in *Penaeus vannamei* in the study area. In this study, the mature prawns (5 month old) were collected and 1g of sample is digested using H_2SO_4 and HNO_3 for 2 hours and filtered. The heavy metal concentration in prawn samples is determined using ICP-OES. The major heavy metals in the prawn head and shell are dominated by Fe>Cu>Zn>Cr>Mn>Ni while in prawn flesh is Fe>Zn>Cu>Cr>As>Ni>Mn. In this study, the highest heavy metals toxicity is prawn head> prawn shell> prawn flesh. In this study, it was found that most of the heavy metals is accumulated in the head of prawn whereas the least is in the shell of prawn.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:50

Venue: School of Humanities Conference Room

Session 3: 10 presentations-Topic: "Environmental and Biological Engineering"

Session Chair: Assoc. Prof. Daehwan Kim

B3018 Presentation 9 (17:20~17:35)

Airborne Fine Particulate Emissions from Construction Activities

Carolyn Payus, Lai Yu Mian, and Norela Sulaiman

Universiti Malaysia Sabah (UMS), Malaysia

Abstract—Construction activities contribute a significant source of airborne particulate matter (PM) which causing substantial impact on air quality. This study is conducted to investigate the ambient particulate matter concentration at the construction jobsite for newly shop lot 5-storeys building in Kota Kinabalu, Malaysia. The study focusing on coarse and fine airborne particulate sizes which involved PM0.3, PM0.5, PM1 and PM2, thus to evaluate the meteorological factors namely on relative humidity, temperature and wind speed around the construction site during construction activities on PM concentrations. The study is carried out within two different construction phases to evaluate the PM emissions that sourced from the construction activities. Phase 1 is the preliminary stage of the project plan where site preparation activities are carried out, while Phase 2 is the early stage of the project plan where the superstructure construction activities will be involved. Results showed that the concentration of particulate matter collected in Phase 2 is found higher than in Phase 1, as more extensive construction activities are being carried out in Phase 2. The meteorological conditions including temperature, relative humidity and wind speed are also found to be able influenced the characterization of PM according to their sizes. Mitigation and controlling measures to alleviate the emissions of construction activities can be adopted and improved in order to reduce the atmospheric pollution that elicited by PM.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:50

Venue: School of Humanities Conference Room

Session 3: 10 presentations-Topic: "Environmental and Biological Engineering"

Session Chair: Assoc. Prof. Daehwan Kim

B2007 Presentation 10 (17:35~17:50)

Characterization of Global Transcriptomes of Saccharomyces cerevisiae by RNA-seq

Siyu Xu and Naomichi Yamamoto

Seoul National University, South Korea

Abstract—Several strains of baker's yeast *Saccharomyces cerevisiae* were shown to contain double-stranded RNA (dsRNA) that potentially cause dramatic changes in their hosts. The genome-wide gene expression differences among these strains and their responses to the antiviral drugs are not clear so far. Three strains of *S. cerevisiae,* including a strain containing dsRNA of ScV-L1, a strain containing dsRNA of L28 and M28, and a strain without dsRNA (S288c), were exposed to a biologically active concentration (100 μM) of ribavirin, an antiviral drug which can inhibit synthesis of viral RNA. For each library, 8,504,320 to 14,278,183 sequences were mapped to the reference genome of *S. cerevisiae* S288c. A total of 5,934 transcribed genes were detected, representing 93% of the 6,350 known genes of *S. cerevisiae* S288c. The gene ontology analysis based on total 109 DE genes showed that genes related to viral life cycle, viral release from host cell, and viral process were significantly down-regulated in the L28/M28 strain, while genes related to small nucleolar ribonucleoprotein complex, base pairing with Rrna, and RNA modification guide activity were significantly down-regulated in the S288c strain. This study provides a comprehensive sequence resource for *S. cerevisiae* research.

Session 4

Tips: The schedule for each presentation is for reference only. In case of missing your presentation, we strongly suggest that you attend the whole session.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:20

Venue: School of Humanities Seminar Room II

Session 4: 9 presentations-Topic: "Energy Science and Engineering"

Session Chair: Prof. Anja Pfennig

B0005 Presentation 1 (15:20~15:35)

Artificial Neural Network Based Prediction of Energy Generation from Thermoelectric Generator with Environmental Parameters

Zi Yang Adrian Ang, Wai Lok Woo, and Ehsan Mesbahi

Newcastle University, Singapore

Abstract—This paper focus on a new methodology approach to evaluate more accurately the energy generated from Thermoelectric Generator (*TEG*) under the influence of its operating environmental parameters. An artificial neural network (*ANN*) model for predicting the energy generated by a *TEG* in its operating environment has been developed. The dataset generated through a validated finite volume method is trained in a supervised way and tested by a multi-layer perceptron (MLP) to predict the energy generated. However, the degree of ambiguity may vary widely across the whole range of input values therefore in this paper, a new methodological approach will be incorporated to not only predict the average value but as well as evaluating the reliability of the output value with the use of a scheme which is made up of two coupled neural network. Apart from predicting the output values, this model can perform reverse *ANN* to predict the input value when provided with an output value.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:20

Venue: School of Humanities Seminar Room II

Session 4: 9 presentations-Topic: "Energy Science and Engineering"

Session Chair: Prof. Anja Pfennig

B0009 Presentation 2 (15:35~15:50)

Modeling and Development of Run-of-River Cascade Hydropower Plants in Nepal

Raju Rai and Ken Nagasaka

Tokyo University of Agriculture and Technology, Japan

Abstract—Nepal is a developing country rich in water resources, with an enormous potential of hydropower having more than 6000 rivers. Hydropower plays an increasingly important role in electricity generation in Nepal. To serve Nepal's economy and reduce the power shortage, cascade hydropower plants are the most promising available renewable energy sources in Nepal. In this paper, we propose a model for a cascade of hydro power plants using multiple dams systems in Trishuli river of Nepal to increase the potential of hydropower and to solve the needs of demand in the country. The output power of proposed cascade hydropower plants are connected to a 66 Kv grid. As we know, Nepal is a small country which needs more power and demand is obviously high. In Nepal, Trishuli river is one of the famous rivers having high economic importance and potential water resources. If we construct more cascade hydropower plants in this river, it will enable access to electrification in rural areas as well as reduce the power shortage in local community. Also, it helps to reduce the CO_2 emission. This research provides a way to assess the operation of cascade hydropower plants as well as design power plants and verify the potential of electric energy supplied by multi dams rather than a single dam. Grid connected cascade hydropower is implemented for a Kathmandu valley, Nepal. It has been analyzed that the power generated helps reduce the demand for electric power. The developed model is simulated using the Power Systems Computer Aided Design (PSCAD) software. Finally, the simulation models of existing and proposed hydropower plants and its interconnection system are analyzed.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:20

Venue: School of Humanities Seminar Room II

Session 4: 9 presentations-Topic: "Energy Science and Engineering"

Session Chair: Prof. Anja Pfennig

B0010 Presentation 3 (15:50~16:05)

Prospect Area Mapping for Geothermal Energy Exploration in Afghanistan

Mohammad Abed Anwarzai and Ken Nagasaka

Tokyo University of Agriculture and Technology, Japan

Abstract—One of the cleanest energy sources is geothermal. To generate electricity or to directly use as heat this sustainable resource proper investigation of reservoir characteristics is required. The purpose of this research is to determine the best prospect location of geothermal reservoirs for further investigation in Afghanistan. To achieve this goal, the geological, geophysical, and geochemical evidence maps (such as volcanic dome and rock, fault, high temperature, intrusive rock, geopressured, hot spring, and hydrothermal mineral areas) were created in GIS (Geographical Information System) ArcMap 10.1. The GIS geoprocessing tools (such as buffer, union, and intersection) were used to define the best prospect areas of geothermal energy resources. The result of this study is the first digital map of prospect areas for geothermal resources in Afghanistan. Besides known hot springs, it has determined the wide potential areas around the load centers and big cities of the country.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:20

Venue: School of Humanities Seminar Room II

Session 4: 9 presentations-Topic: "Energy Science and Engineering"

Session Chair: Prof. Anja Pfennig

B0019 Presentation 4 (16:05~16:20)

High-Performance Solution-Based Transparent Conducting Oxides Fabricated at Low Annealing Temperature

Bon-Ryul Koo, Ju-Won Bae, and Hyo-Jin Ahn

Seoul National University of Science and Technology, Korea

Abstract—Transparent conducting oxides (TCOs) such as ITO (In2O3:Sn), FTO (SnO2:F) and ATO (SnO2:Sb) have been received much attention various optoelectronic applications (i.e. liquid crystal displays, sensors, solar cells and organic light-emitting diodes). Among these, ITO is a representative TCO with outstanding sheet resistance and optical transmittance over the visible wavelength region. Till now, to obtain high-performance ITO, synthetic methods such as sputtering, laser ablation and chemical vapor deposition have been developed. However, these methods require high vacuum condition, which can limit their utilization for practical industrial fields due to low productivity and high cost. On the other hand, solution-based methods such as sol-gel, electrospray and spin coating are attracted as effective alternative for vacuum-based methods due to their low-cost and simple process. However, despite these advantages, solution-based methods are based on the high annealing temperature to improve transparent conducting performances, causing the decrease in the performance competitiveness and price of TCOs. Therefore, decreasing the annealing temperature on high-performance solution-based TCOs is being challenge for optoelectronic applications requiring flexibility and low-cost fabrication. In this study, we fabricated high-performance solution-based TCOs at low annealing temperature. In addition the major mechanism for performance improvement of TCOs was demonstrated based on structural, chemical, electrical, and optical properties. Therefore, these results will be discussed in conference.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:20

Venue: School of Humanities Seminar Room II

Session 4: 9 presentations-Topic: "Energy Science and Engineering"

Session Chair: Prof. Anja Pfennig

B1002 Presentation 5 (16:20~16:35)

Development of Nomograph for Sizing a Centrifugal Pump as Turbine for Electric Power Generation

Adornado C. Vergara, Ireneo C. Agulto, Victorino T. Taylan, Armando N. Espino, Teresito G. Aguinaldo, and Melissa E. Agulto

Nueva Vizcaya State University, Philippines

Abstract—Three different sizes and brands of non-self-priming Centrifugal Pump (CP) were used in this study. Sizes of CP were as follows: 75 mm x 75 mm, 100 mm x 100 mm and 125 mm x 125 mm. Each Centrifugal Pump as Turbine (CPAT) was individually coupled to the test rig and subjected to variable heads and flow rates. On-site evaluation of 100 mm x 100 mm CPAT was conducted at an existing Micro Hydro Power (MHP) system.

Functional relationships presented in the Nomograph were Actual Discharge of CPAT, Rotational Speed and CPAT Brake Power at different heads. To validate the reliability of the developed Nomograph, data in laboratory testing and on-site testing were compared statistically.

During laboratory testing, regression equations developed from 75 mm x 75 mm, 100 mm x 100 mm and 125 mm x 125 mm between net head (H) and actual discharge (Q_a) are $Q_a = 0.0042H^{0.2991}$ with $R^2 = 0.94$, $Q_a = 0.0065 + 0.0006H – 0.0000002H^2$ with $R^2 = 0.98$, and $Q_a = 0.0093H^{0.3581}$ with $R^2 = 1$, respectively. Likewise the regression equations between net head (H) and CPATs shaft speed are $N = 11.608 + 1.5589H – 0.0119H^2$ with $R^2 = 0.98$, $N = 11.08 + 1.5249H – 0.0043H^2$ with R2 = 0.95, and $N = 10.157H^{0.3827}$ and $R^2 = 0.97$, respectively. Similarly, regression equations between net head (H) and CPATs brake power are $BP_{CPAT} = 0.0912H^{1.1392}$ with $R^2 = 0.96$, $BP_{CPAT} = 0.1096H^{1.2624}$ with $R^2 = 0.99$, and $BP_{CPAT} = 0.022H^2 + 0.0248H + 0.4863$ with $R^2 = 0.99$, respectively. The values derived from these equations were used in making the Nomograph.

On the other hand, regression equations developed on-site from a 100 mm x 100 mm CPAT between net head (H) and Qa, net head (H) and N, net head (H) and BP_{CPAT} were statistically comparable during laboratory testing and are as follows: $Q_a = 0.0036H^{0.5662}$ with $R_2 = 0.95$,

$N = -0.0022H^2 + 1.335H + 13.044$ with $R^2 = 0.99$, and $BP_{CPAT} = 0.1173H^{1.244}$ with $R^2 = 0.98$. The Nomograph was tested on-site and showed satisfactory performa

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:20

Venue: School of Humanities Seminar Room II

Session 4: 9 presentations-Topic: "Energy Science and Engineering"

Session Chair: Prof. Anja Pfennig

B2004 Presentation 6 (16:35~16:50)

Turbulence Model Prediction Capability in 2D Airfoil of NREL Wind Turbine Blade at Stall and Post Stall Regions

Shrabanti Roy, **Ziaul Huque**, Kyoungsoo Lee, and Raghava Kommalapati

Prairie View A&M University, USA

Abstract—Aerodynamic force that generated on 2D section of a blade is important for measuring the blade performance. Therefore in this current work Computational Fluid Dynamics (CFD) analysis was performed on 2D S809 airfoil. S809 airfoil was designed by National Renewable Energy Laboratory (NREL). Experimental analysis of this airfoil was done and available for the validation purpose. Aerodynamic forces like lift and drag coefficients were measured by using CFD in this work. Pressure coefficients around the airfoil were also generated to compare with experimental results. A wide range of angle of attack cases with a fixed Reynolds number of 2×106 were considered which helped to analyze all stall and post stall flow conditions. It is clear that capturing all practical phenomena of 2D airfoil through CFD simulations are difficult. Over predictions of lift-coefficient and under-prediction of drag coefficient from the simulations as compared to experimental data were observed. Five different model equations were used to find the accuracy of various turbulence models in CFD calculation. The main emphasis of the result was on the variation at stall and post stall region. It has found that SST gamma-theta model is more accurate in predicting the effect of flow transition and separation than the other equations used in this work.

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Session Chair: Prof. Anja Pfennig

B3010 Presentation 7 (16:50~17:05)

Alternating Current Electrophoretic Deposition for Deposition of Multiwall Carbon Nanotubes-Polyaniline Supercapacitor Electrode

Nor Hamizah Eleas, Nur Shamimie Nadzwin Hasnan, Rozelia Azila Abd Razak, Nurul Nazwa Mohammad, Azmi Mohamed Yusof, and Intan Syaffinazzilla Zaine

Universiti Teknologi Mara, Malaysia

Abstract—Congestion is a complex and multidimensional phenomenon, difficult to uncover and mitigate. Nonrecurrent congestion caused by unexpected events, influencing parts of an arterial network of signalised intersections is considered. More precisely, while demand remains unchanged, unplanned traffic disturbance of limited duration affects some intersection nodes, allowing only a pre-defined number of vehicle departs from specific links. The presence and effectiveness of a traffic response strategy prevailing network misbehaviour is analysed and compared with a pre-timed signal plan, stabilising the network under regular traffic conditions. Traffic performance is evaluated before, while and after the disturbance period under both signal policies. Furthermore, consequences of the local congestion, case when traffic instability, to other network areas are highlighted as demand approaches the road capacity. Travel quality is qualified in terms of trajectory mean travel time, trip delays, vehicle queue lengths etc.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:20

Venue: School of Humanities Seminar Room II

Session 4: 9 presentations-Topic: "Energy Science and Engineering"

Session Chair: Prof. Anja Pfennig

B3017 Presentation 8 (17:05~17:20)

The Role of Different Electron Donor Groups in Donor–π–Acceptor (D-π-A)-type Organic Dyes for Dye-Sensitized Solar Cells

A. K Mahmud Hasana, Irsyamuddin M. Zina, Towhid. H. Chowdhury, M. S. Jamala, M. Mohd Hafidz Ruslana, Kamaruzzaman Sopiana, Nowshad Amin, and **Md. Akhtaruzzamana**

Universiti Kebangsaan Malaysia (UKM), Malaysia

Abstract—A comparative study on D-π-A based dye sensitized solar cell's (DSSC) performance with different donor groups such as Indoline, Triphenyl, Carbazole, Naphthalene and Pyrolidine analogous was examined. The photovoltaic performances of Indoline donor based dye AK-01 showed highest photon to current conversion efficiency (η) of 6.2 % compared to triphenyl based dye TA-ST-CA (5.4 %) although AK-01 came up with lower open-circuit voltage (Voc) (0.639 V) than that of TA-St-CA (0.718 V). The overall photovoltaic performance of carbazole based dye Ba-01 showed lower η of 5.64 % compared to tripheneyl based dye Ba-02 (6.11%) and Ba-03 (6.38 %). On the contrary, Voc produced by Ba-01 (0.618 V) was higher than Ba-02 (0.589 V) and Ba-03 (0.595 V). Meanwhile, with 2,6-disubstituted naphthalene frameworks the DSSCs based on YF02, included of diphenylamine moiety as the donor, produced the higher η of 5.29% compared to 4.03% of the analog dye YF04, which contains pyrrolidine as the donor. Dye YF-02 showed a higher η compared to YF-04 even though the former produced lower photo-current density (9.19 Ma cm^{-1}) than the later (10.24 Ma cm^{-1}) because of fair deference in Voc between them which can be ascribed to the torsion angle in YF02 (33.33 °) and YF-04 (4.01 °). The density function theory (DFT) calculations were established to be an effective implement in the forecast of the vertical electronic excitation, charge separation, and photovoltage as it effectively predicted the delocalization and coefficient size of the HOMO and LUMO for all the mentioned dyes.

Afternoon, January 9, 2017 (Monday)

Time: 15:20~17:20

Venue: School of Humanities Seminar Room II

Session 4: 9 presentations-Topic: "Energy Science and Engineering"

Session Chair: Prof. Anja Pfennig

B3001 Presentation 9 (17:20~17:35)

Factors Affecting Electricity Consumption in Dhaka City: A Case Study

Md. Sirajul Islam

North South University, Bangladesh

Abstract—Dhaka, the capital city of Bangladesh, is one of the fastest growing cities in the world with a population of around 15 million. As a developing country, however, development of the utilities of the city could never keep pace with its ever growing population. All along its history, scarcity of electricity has been a recurring event there. Along with supply augmentation, other option like demand management, i.e. lowering consumption can be a sustainable option to be explored, which essentially means lower carbon footprint as most of the power plants here are based on fossil fuel. Lack of systematic study to understand the supply-demand nature is still a major setback here. This study analyzed some of the recent computer based actual supply-demand data of Dhaka Electricity Supply Company (DESCO) to understand the major factors affecting electricity consumption nature and scope for improvement. Availability of electricity and its supply nature, i.e. continuous or load shedding, the off-peak or peak hours, variation of weather or seasons, income level of the consumer, population density, and tariff rate, etc are some of the factors significantly affecting the consumption nature. Access to electricity in Dhaka city varies from 13% to 100% in case of general households. Per capita consumption now is around 1.2 kilowatt (kW) on an average, which is reduced from 2.9 kW in 2002-03. Factors that contributed to such reduction are strict monitoring of unauthorized connection, energy efficient appliances, use of solar panel and policy measure like variation of tariff rate based on peak hours, etc. Distribution system loss was 26.66% in 2002-03 and reduced to 8.37% in 2014-2015. Two other factors contributed the most are use of energy efficient appliance and solar panel. For example, in the study area 243 zones have 4,930 roof-top solar PV panel. 68% areas have implemented solar panel as a condition of electricity connection. However, solar mapping also shows that 113 zones have no panel installed in the last five years. Likewise, increase of average one kW capacity of electric appliances significantly increases

the electricity consumption up to 47% for residential usage and up to 177% for commercial usage. 68% of the consumers are aware of such energy efficient appliances. A detail analysis of the factors is done at the end.

Poster Session

January 9, 2017 (Monday)

Time: 9:00~17:50

Venue: School of Humanities Conference Room

B0007 Poster Presentation (9:00~17:50)

Ammonia Effect on Denitrification of Real Secondary Effluent Using Methane from Anaerobic Digestion

Kwanhyoung Lee, Oh Kyung Choi, **Young Kim**, Sung Pyo Kim, Yongsuk Hong, and **Jae Woo Lee**

Korea University, Korea

Abstract—Aerobic methane oxidation coupled to denitrification (AeOM-D) using methane as a sole carbon source has been studied as an alternative process to post denitrification. The AeOM-D has been proved for denitrification of synthetic effluent in the nitrate range from 40 to 400 mg N/L. However, little study for AeOM-D using real secondary effluent has been done so far.

Ammonia is known to be an inhibitor to methane oxidation by substrate competition of methane monooxygenase (MMO). In addition to direct inhibition of ammonia on MMO activity, intermediate of ammonia oxidation such as hydroxylamine and nitrite can also affect methane oxidation. Ammonia concentration in the real secondary effluent is variable depending on process configuration, operational condition, and temperature. Effect of ammonia on AeOM-D was investigated by comparing the results from continuous operation of AeOM-D bioreactor using synthetic and real secondary effluents, respectively. Denitrification efficiency was decreased by 27 % in AeOM-D for the real secondary effluent compared to synthetic effluent. The specific denitrification rate (SDNR) also decreased by 10 % in the real secondary effluent compared to that of synthetic effluent probably due to ammonia inhibition. Nitrite accumulated in all experimental condition. The reason for nitrite build-up was not clearly identified in this study but it was surmised that part of it resulted from incomplete nitrification by methanotrophs or incomplete denitrification by denitrifiers. Additionally, higher ammonia concentration leads to a significantly lower MMO activity and accumulation of nitrite, which implied that a part of ammonia could inhibit MMO activity by a competitive inhibition and the MMO could oxidize ammonia into nitrite.

January 9, 2017 (Monday)

Time: 9:00~17:50

Venue: School of Humanities Conference Room

B3016 Poster Presentation (9:00~17:50)

Structural Characterization of Gallium Oxide Thin Films Grown on C-plane Sapphire Substrates by Plasma-Assisted Molecular Beam Epitaxy

Ngo Si Trong, Le Duy Duc, and **Soon-Ku Hong**

Chungnam National University, Republic of Korea

Abstract—III-oxide, Ga_2O_3 has five different crystalline phases i.e., α, β, δ, ε and γ phases. Among these phases, monoclinic β-Ga_2O_3 has wide bandgap energy of 4.9 Ev at room temperature, high transparency to light from visible to UV wavelength regions, high breakdown field as large as 8 MV/cm, which is three times larger than those of 4H-SiC and GaN. Therefore, β-Ga_2O_3 is a promising material for several applications like transparent electronic devices, deep-UV photodetectors, and high power semiconductor devices.
Although most of publications on Ga_2O_3 thin films have reported the growth of monoclinic β-Ga_2O_3 phase, it is not clear that rhombohedral α-Ga_2O_3 phase is also formed with the β-Ga_2O_3 phase. In this study we performed structural characterization of Ga_2O_3 films grown on c-plane sapphire substrates at various growth temperatures from 550 to 800 ^oC by plasma assisted molecular beam epitaxy. The $(\bar{2}01)$ oriented β-Ga_2O_3 phase with a six-fold rotational symmetry was observed similarly to the results of previous studies. However, in addition to the β-Ga_2O_3 phase, the existence of the nanometer size rhombohedral α-Ga_2O_3 phase was confirmed directly by using TEM-EBSD based on nanoscale scanning to get electron diffraction patterns at each region. Detailed results will be discussed.

Dinner	
18:00	**Humanities Pantry Room**

Half Day Academic Visit

January 10, 2017 (Tuesday) 9:00~12:00

Universiti Sains Malaysia

Address: Building C20 Universiti Sains Malaysia

http://maps.usm.my/campus/

9:00 We gather outside of the School of Humanities Conference Room

10:00 Introducing USM to you, as well as the academy.

10:30 People from water watch Penang will give brief introduction about protect environment strategies.

11:00 Walking Tour of USM Campus

12:00 Ending of academic visit.

12:00~13:30 Lunch

UNIVERSITI SAINS MALAYSIA

Half Day City Tour

January 10, 2017 (Tuesday) 13:30~17:00

Penang is a state in Malaysia located on the northwest coast of Peninsular Malaysia, by the Strait of Malacca.

Penang state is bordered by Kedah in the north and east, and Perak in the south. It is composed of two parts — Penang Island, where the seat of government is, and Seberang Perai (formerly Province Wellesley in English) on the Malay Peninsula.

Highly urbanised and industrialised Penang is one of the most developed and economically important states in the country, as well as a thriving tourist destination. Penang has the third-highest Human Development Index in Malaysia, after the state of Selangor and the federal territory of Kuala Lumpur. Its heterogeneous population is highly diverse in ethnicity, culture, language and religion.

Conference Venue

Universiti Sains Malaysia——School of Humanities Conference Room

(Address: Building C20 Universiti Sains Malaysia)
You can check the map and the way to School of Humanities Conference Room
http://maps.usm.my/campus/

Established as the second university in the country in 1969, Universiti Sains Malaysia (USM) was first known as Universiti Pulau Pinang. In 1971, USM moved from its temporary premises at the Malayan Teachers' Training College, Bukit Gelugor to the present 416.6 hectare site at Minden, approximately 9.7 km from Georgetown.

USM offers courses ranging from Natural Sciences, Applied Sciences, Medical and Health Sciences, Pharmaceutical Sciences to Building Science and Technology, Social Sciences, Humanities, and Education. These are available at undergraduate and postgraduate levels to approximately 30,000 students at its 17 Academic Schools on the main campus in the island of Penang; 6 Schools at the Engineering Campus in Nibong Tebal (approximately 50km from the main campus); and 3 at the Health Campus in Kubang Kerian, Kelantan (approximately 300km from the main campus).

USM also has 17 dedicated research centres for a wide range of specialisations which include archaeology, medicine and dentistry, molecular medicine, science and technology, Islamic development and management studies, and policy research and international studies. It also provides consultancy, testing, and advisory services to the industry under the ambit of USAINS Holdings Sdn Bhd, the University's commercial arm.

Since the beginning, USM has adopted the School system rather than the traditional Faculty system to ensure that its students are multi-disciplined from their exposure to other areas of study by other Schools. It also encourages students to be active in extra-curricular activities given the myriad of clubs and societies available.

As a Research Intensive University recognised by the Ministry of Higher Education Malaysia (MOHE) in 2007, USM offers educational and research opportunities to students and staff. In 2008, USM also became the first university in the country to be selected by the Malaysian government to participate in the Accelerated Programme for Excellence (APEX), a fast-track programme that helps tertiary institutions achieve world-class status.

Recommended Hotels:

1. Vistana Hotel
http://www.vistanahotels.com/Penang/bukitjambul/Default.aspx?utm_source=affilired
2. Hotel Equatorial
https://penang.equatorial.com/

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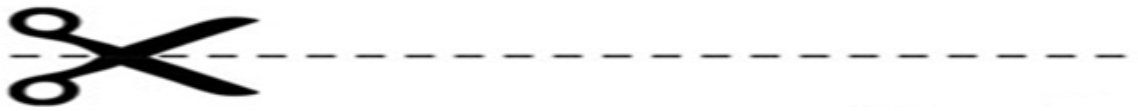

Feedback Information

(Please fill this form and return it to conference specialist during the conference days.)

Personal Information					
Conference Name and Paper ID					
Full Name					
E-mail Address					
Area of Research					
Affiliation					
Please indicate your overall satisfaction with this conference with "√"					
	Very Satisfied	Somewhat Satisfied	Neutral	Somewhat Dissatisfied	Very Dissatisfied
Conference Content					
Presentation and Paper Value					
Registration Process					
Venue					
Food and Beverage					
Are You A Member of APCBEES	Yes□No□ (If "No", you may apply membership from http://www.cbees.org/member.htm)				
Do You Willing to Receive APCBEES Future Conferences Information Via E-mail	Yes□No□				
Where did you get the conference information?					
Would you please specify the main reason for attending this conference?					
Did the conference fulfill your reason for attending?	Yes– Absolutely □ Yes- But not to my full extent □No□ (If "No", please tell us the main reason)				

Would you please list the top 3 to 5 universities in your city?	
Other Field of Interest	
Any Other Suggestions/Comments	

Thank you for taking time to participate in this conference evaluation. Your comments will enable us to execute future conferences better and tailor them to your needs!