2015 APCBEES SEOUL CONFERENCES SCHEDULE

2015 6th International Conference on Food Engineering and Biotechnology (ICFEB 2015)
2015 5th International Conference on Biomedical Engineering and Technology (ICBET 2015)
2015 5th International Conference on Environment and Industrial Innovation (ICEII 2015)

Seoul, South Korea

March 10-11, 2015

HANYANG UNIVERSITY

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2015 APCBEES Seoul Conferences Introduction

Welcome to CBEES 2015 conferences in Seoul, South Korea. The objective of the Seoul conferences 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 Food Engineering and Biotechnology, Biomedical Engineering and Technology, and Environment and Industrial Innovation.

2015 6th International Conference on Food Engineering and Biotechnology (ICFEB 2015)

❄ **Paper publishing and index:** ICFEB 2015 papers will be published in one of the following journals:

International Journal of Food Engineering (IJFE, ISSN: 2301-3664), and be included in the Engineering & Technology Digital Library, and indexed by EBSCO, WorldCat, Google Scholar, Cross ref, ProQuest , CABI.

Journal of Medical and Bioengineering (JOMB, ISSN: 2301-3796), and all papers will be included in the Engineering & Technology Digital Library, and indexed by EBSCO, WorldCat, Google Scholar, Cross ref.

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

2015 5th International Conference on Biomedical Engineering and Technology (ICBET 2015)

❄ **Paper publishing and index:** ICBET 2015 papers will be published in the Volume of Journal (IPCBEE, 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(中国知网), WorldCat, Google Scholar, Cross ref and sent to be reviewed by Compendex and ISI Proceedings.

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

2015 5th International Conference on Environment and Industrial Innovation (ICEII 2015)

❄ **Paper publishing and index:** ICEII 2015 papers will be published in one of the following journals:

International Journal of Innovation, Management and Technology (IJIMT, ISSN: 2010-0248), and be included in the Engineering & Technology Digital Library, and indexed by Google Scholar,Cross ref, ProQuest.

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

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

Excellent Paper Award

- One excellent paper will be selected from each oral presentation sessions, and the Certificate for Excellent Papers will be awarded at the end of each session on March 11, 2015.

Instructions for Oral Presentations

Devices Provided by the Conference Organizer:

Laptop Computer (MS Windows Operating System with MS PowerPoint & Adobe Acrobat Reader)
Digital 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 Presentation: about 15 Minutes (Including question and answer time)
Keynote Speech: 35 Minutes of Presentation and 5 Minutes of Q&A

Instructions for Poster Presentation

Materials Provided by the Conference Organizer:

The wall to put poster

Materials Provided by the Presenters:

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

Brief Schedule for Conferences

March 10, 2015 10:00am-3:00pm Arrival and Registration **Venue:** Outside of the Conference Room (HIT #608---6 Floor) 3:30pm-5:00pm Academic Visit in HANYANG UNIVERSITY
March 11, 2015 9:00am-6:35pm Registration and Conference Presentation
Conference Room (HIT #608---6 Floor) Opening Remarks 9:00am-9:10am Keynote Speech I 9:10am-9:50am Keynote Speech II 9:50am-10:30am Coffee Break & Photo Taking 10:30am-10:50am Keynote Speech III 10:50am-11:30am
Conference Room (HIT #608---6 Floor) **Session 1:** 11:30am-12:30pm (4 presenters)---(Environmental science Topic--ICEII 2015)
Lunch: 12:30pm~1:30pm **Venue:** Haengwon square B1 (Please arrive on time at "Conference Room (HIT #608---6 Floor)" by 1:30pm after lunch)
Conference Room (HIT #608---6 Floor) **Session 2:** 1:30pm-3:30pm (8 presenters)---(Food, Chemistry etc. Topic--ICFEB&ICEII 2015)
Coffee Break: 3:30pm-3:50pm It offers you a great time to communicate with other experts about your study field and research results
Conference Room (HIT #608---6 Floor) **Session 3:** 3:50pm-6:35pm (11 presenters)---(Biomedical Topic--ICBET&ICFEB 2015)
Dinner 6:50pm

Presentation Tracking Contents

SESSION–1 (ICEII 2015)
Venue: Conference Room (HIT #608---6 Floor)
Session Chair: Prof. Chan Jin Park
Time: 11:30am-12:30pm

PAGE	PAPER ID	PRESENTER
7	E0005	Mahsa Narimani Abar
7	E1002	Alireza Poorkhabbaz
7	E1004	Charuvan Kasemsap
8	E4006	Aufa Zin

SESSION–2 (ICFEB&ICEII 2015)
Venue: Conference Room (HIT #608---6 Floor)
Session Chair: Prof. AHN, KANG-HO
Time: 1:30pm-3:30pm

PAGE	PAPER ID	PRESENTER
8	A0008	Liwayway H. Acero
9	A0009	Keimei Oh
9	A0010	Nasser Al-Shabib
10	A0002	Manjunath Patil
10	E0006	Bilegsaikhan Sumiya
10	E1003	MiftahFirmansyah
11	E2001	KhaidarAli
11	E3002	A. N. Ramani

SESSION–3 (ICBET&ICFEB 2015)
Venue: Conference Room (HIT #608---6 Floor)
Session Chair: Prof. Sezai Ercisli
Time: 3:50pm-6:35pm

PAGE	PAPER ID	PRESENTER
12	B0001	Yi Guo
12	B0002	Takuto Nagashima
13	B0004	Ahmad Yusairi Bani Hashim
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13	B0007	Jing-Wun Huang
14	B0008	Li-Wen Wang
14	B0009	Jiyang Gao
15	B0011	Noorsyazwani Zulkifli
15	B0013	Yufei Xie
15	A0004	Rosma Alami
16	A1003	D. Viroonudomphol

Attention Please:

1. Each presenter has about fifteen minutes (including question and answer time), please control your presentation time.
2. Please kindly prepare your PPT or poster according to your research and the time regulation before the conference and take it to the conference site.
3. Please arrive at the conference room 15 minutes before your session begins.

Hoping you to have a good time during the conference.

Detailed Schedule for Conferences

March 10, 2015 (Tuesday)

Venue: Conference Room (HIT #608---6 Floor)

10:00am-3:00pm	**Arrival and Registration**
3:30pm-5:00pm	**Academic Visit**

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 presentation sessions, and the Certificate for Excellent Papers will be awarded at the end of each session on March 11, 2015.

Morning, March 11, 2015 (Wednesday)

Venue: Conference Room (HIT #608---6 Floor)

9:00am-9:10am		**Opening Remarks** Prof. Chan Jin Park Incheon National University, Republic of Korea
9:10am-9:50am		**Keynote Speech I** Prof. Sezai Ercisli Ataturk University Agricultural faculty Dept, Horticulture, Turkey Topic: "Food Properties of Wild Edible Fruits"
9:50am–10:30am		**Keynote Speech II** Prof. Chan Jin Park Incheon National University, Republic of Korea Topic: "The Odor Pollution and Innovative Solution in Urban Area"
10:30am-10:50am	**Coffee Break & Taking Photo**	
10:50am-11:30am		**Keynote Speech III** Prof. AHN, KANG-HO College of Engineering Sciences Department of Mechanical Engineering, HanYang University. Topic: "Atmospheric Aerosol Measurement using Tethered Balloon System, UAV, and Bike"

SESSION–1 (ICEII 2015) (4 presenters)

Venue: Conference Room (HIT #608---6 Floor)

Session Chair: Prof. Chan Jin Park

Time: 11:30am-12:30pm

E0005	Environmental Management Accounting Model on the Basis of Environmental Management System in Leather Industry Marzie Hatef Jalil, **Mahsa Narimani Abar**, and Fatemeh Dadashian Applied Science and Technology University of Tehran *Abstract*—Environmental Management System [EMS] is a useful approach for improving the environmental function of organizations. Since the main decisions of environmental management depends on the costs and benefits of the suggested changes in the environmental behavior of the firm, Environmental management accounting [EMA] seems to be an essential and fundamental step for establishing an efficient environmental management. EMA is unfortunately most likely ignored or not enough discussed in neither management nor environmental fields, especially in developing countries. Therefore, this research aims to implement the environmental management accounting in a leather factory of Iran. Furthermore, this practical research introduces a suitable and practical model for implementation of EMA in the mentioned industry. Leather industry is considered to be a polluting industry and has harmful impacts on the environment. Thus, EMA can be quite helpful in this regard. In summary, in this study, besides studying the EMA approaches in different industries worldwide and their implementation methods, a case study was carried out in leather industry of Iran. In the end a model for EMA implementation in leather industries was produced.
E1002	Study of Metals Level of Zn, Pb, Cr on Wetland Plant **Alireza Poorkhabbaz**, Hamidreza Pourkhabbaz, Saeideh Javanmardi, Sedigheh Arghavani University of Birjand *Abstract*—Aquatic plants are commonly observed in water bodies throughout the world. Wetland plant species differ greatly in their abilities to accumulate and translocate metals, so metal removal by wetland vegetation can be greatly enhanced by the selection of appropriate plant species. The aim of this study was to examine whether contents of zinc (Zn), lead (Pb) and chromium (Cr) is higher in the leaves than in the stems of a submerged aquatic plant, *Ceratophyllum demersum*. Pb made up the highest concentrations in the leaves. The mean concentrations of Pb in the leaves at the all sampling sites were ranged between 7.49 - 11.88 µg/g, respectively. Zinc made up the highest concentrations in the stem. The mean concentration of Zn in the stem at the all sampling sites was ranged between 19.89 - 40.01 µg/g. In the present study, Pb concentrations were higher in the leaves than in the stems, while Zn concentration was higher in the stems than in the leaves. Accumulation of Cr in the organs of *C. demersum* was in descending order of leaf ~ stem, since there was no significant differences between the mean concentration of the leaves and stems of the *C. demersum* for Cr.
E1004	Solid Waste Management as a Tool in Happy Workplace **Charuvan Kasemsap**

	Kasem Bundit University *Abstract*—The purpose of this study was to implement the happy workplace activities through the employee engagement in the small and medium-sized enterprises (SMEs) located in the industrial estate around Bangkok, Thailand. Information obtained from participants, comprising of semi-structured interviews and happinometer questionnaire surveys were analyses to evaluate the appropriate happy workplace activities, which were conducted as during May 2013 – May 2014. The improvement of solid waste management and "5S" system of Cornel Polymer Co. Ltd., Pop System and Service Co. Ltd., and Siam Integration System Co. Ltd. approximately 80, 20, and 30 percent, respectively leaded to the increasing of happy workplace score of happy body about 40 percentages of each case study.
E4006	Early Detection of Spots High Water Saturation for Landslide Prediction Using Thermal Imaging Analysis **Aufa Zin**, Kamarul Hawari, and Norliana Khamisan Universiti Malaysia Pahang *Abstract*—Nowadays, landslide phenomenon has become a serious problem in Malaysia. Landslide can cause human injury, loss of life and economical problem. One of the factors is due to the heavy rain. Hence, to overcome this problem, this study investigates a new method to detect spots of high water saturation which is integrated with a thermal camera system to provide early detection of landslide. The thermal camera is selected because it provides accurate predict where landslide going to occur. Thermal camera can be used to detect spots of high water saturation which is a key component that contributes to landslide activity. The analysis is done using 10 images. It was tested to see the accuracy of this technique. From the observation, this technique is quite accurate but still has their weakness and error.

12:30pm-1:30pm	**Lunch**

SESSION–2 (ICFEB&ICEII 2015) (8 presenters)

Venue: Conference Room (HIT #608---6 Floor)

Session Chair: Prof. AHN, KANG-HO

Time: 1:30pm-3:30pm

A0008	Potassium Aluminum Sulfate Solution on the Vase life of Sampaguita (Jasminum sambac) Flowers **Liwayway H. Acero,** Fedeliz S. Tuy, Josefina S. Virgino San Beda College Manila, Philippines *Abstract*—This experiment was carried out to investigate the effect of potassium aluminum sulfate (Alum) on vase life of Sampaguita (Jasminum sambac) flowers. Flowers were sprayed with potassium aluminum sulfate solutions (0, 0.5 g/l, 1.0 g/l, and 1.5g./l) until the

	end of vase life as a standard treatment and tap water was used as control treatment. Each treatment was comprised by 3 groups, which were subjected to different spraying frequency (once a day, twice/day and three times a day). Treatments with Potassium Aluminum sulfate prolong the vase life of flowers. Final weight is significantly higher in group 2-all treatments (0.5, 1.0 and 1.5 gram/liter Potassium Aluminum Sulfate) sprayed twice a day compared with other treatments and groups. Potassium Aluminum sulfate (0.5, 1.0 and 1.5 gram/liter), sprayed twice /day resulted in a higher diffusion of solution until the end of the vase life.
A0009	Discovery of new lead compounds as inhibitors of allene oxide synthase based on ozagrel scaffold **Keimei Oh**, Yuina Todate and Yuko Yoshizawa Akita Prefectural University *Abstract*—Plant defense responses to herbivore attack and mechanical wounding are regulated by signal transduction pathways. Jasmonates (JAs) are important signal mediators that involve in plant defense signaling. To explore the regulation mechanism of JAs signaling, we have been working on JA biosynthesis inhibitors through design and synthesis small molecules targeting allene oxide synthase (AOS, CYP74A), a key enzyme in JA biosynthesis. In the present work, we report the synthesis of new imidazole-type AOS inhibitors based on ozagrel scaffold. The inhibitory activity of the synthesized compounds against AOS was determined by using purified recombinant protein expressed in E. Coli. Among the nine newly synthesized imidazole derivatives, we found that 6-[4-(2-imidazol-1-yl-ethyl) phenoxy] hexanoic acid ethyl ester (f) exhibits inhibitory activity against AOS with an IC_{50} value approximately 78 ±12M.
A0010	Influence of Thermal Treatments on Ovomucoid as Allergenic protein **Nasser Al-Shabib** King Saud University *Abstract*—Food allergens are most common non-native form when exposed to the immune system. Most food proteins undergo various treatments (e.g. thermal or proteolytic processing) during food manufacturing. Such treatments have the potential to impact the chemical structure of food allergens so as to convert them to more denatured or unfolded forms. The conformational changes in the proteins may affect the allergenicity of treated-allergens. However, most allergenic proteins possess high resistance against thermal modification or digestive enzymes. In the present study, ovomucoid (a major allergenic protein of egg white) was heated in phosphatebuffered saline (pH 7.4) at different temperatures, aqueous solutions and on different surfaces for various times. The results indicated that different antibody-based methods had different sensitivities in detecting the heated ovomucoid. When using one particular immunoassay, the immunoreactivity of ovomucoid increased rapidly after heating in water whereas immunoreactivity declined after heating in alkaline buffer (pH 10). Ovomucoid appeared more immunoreactive when dissolved in PBS (pH 7.4) and heated on a stainless steel surface. To the best of our knowledge, this is the first time that antibody-based methods have been applied for the detection of ovomucoid adsorbed onto different surfaces under various conditions. The results obtained suggest that use of antibodies to detect ovomucoid after food processing may be problematic. False assurance will be given with the use of inappropriate, nonvalidated immunoassays such as those available commercially as ‘Swab’ tests. A greater understanding

	of antibody-protein interaction after processing of a protein is required.
A0002	Effect of probiotics supplementation on milk yield and its composition in lactating Holstein Fre cross bred cows J.N. Shreedhar, **Manjunath Patil** and Pradeep Kumar University of Agricultural Sciences, Raichur *Abstract*—Twenty four HFxDeoni cross bred cows were divided into four groups (6 cows in each group) on the basis of average milk yield, parity and stage of lactation. T0 (control group) cows were not fed with probiotics. T1, T2 and T3 (treatment groups) cows were fed with 10 gm, 15 gm and 20 gm probiotics per day, respectively, just before morning milking. The multi strain probiotic contained Saccharomyces cervisiae and Lactobacillus sporogenes. The animals were milked twice in a day; morning at 5.30 am and afternoon 3.30 pm. Daily milk yield was recorded in pre-trial period of 25 days and then during 60 days of experimental period. Milk samples from the individual cows were collected twice a week (in pre-trial period and in experimental period) and were analysed for fat, SNF, density, freezing point, protein, lactose and total ash using the milk analyzer. From pre-trial period to trial period, the milk yield increased from 8.31 L/day, 8.26 L/day and 8.48 L/day to 8.97L/day, 9.64L/day and 9.68L/day in T1, T2 and T3 group (highly significant; $P<0.05$), respectively, compared to from 8.45 L/day to 8.57L/day in T0 group. Milk were significantly higher in cows (T1, T2 and T3) supplemented with probiotics than T0. The freezing point decreased in T1, T2 and T3 groups indicating increase in the total solids of milk compared to T0. There were minor changes in ash content of milk by feeding probiotics. Economically, supplementing the diet with probiotic earned more profit and feeding @ 15 gm probiotic/day/animal was found more beneficial than feeding @ 10 and 20 g/day/cow.
E0006	Energy poverty in context of Climate Change: what are the possible impacts of improved modern energy access on adaptation capacity of communities? **Bilegsaikhan Sumiya** Seoul National University *Abstract*—Previously listed possible synergies between energy poverty and climate actions have been mostly addressing either climate change mitigation benefits of reducing ambient air pollutants or benefits of increased deep energy-efficiency and energy conservation through better technologies. This paper, however, analyses implications of access to modern energy on environmental and human wellbeing from the perspective of adaptation to climate change and argues for another additional synergy between two seemingly separate issues; the impacts of improved access to modern energy services on the households' resilience to climate stress. This argument is illustrated through describing energy poverty situation and climate vulnerability of Mongolia, a lower middle income country in Northern-east Asia. Which is then followed by identification of possible direct benefits of modern energy services on improved human, financial and natural capital - crucial determinants of adaptive capacity of households to climatic disruptions.
E1003	Assessing Campus Sustainability: A Report from Diponegoro University, Indonesia M. Mujiya Ulkhaq, Putra Indra Prayogo, **Miftah Firmansyah**, and Debora Agustina Diponegoro University *Abstract*—There exist explicit pressures to the universities to integrate sustainability into their

	systems due to numerous declarations and commitments related to the need of sustainability in higher education. As a consequence, there are several frameworks for achieving campus sustainability. The objective of this research is to verify the adherence between the condition at Diponegoro University and the framework for achieving campus sustainability proposed by Alshuwaikat and Abubakar. A case study is conducted through observation, data and document collection, and interview with the university's stakeholders, professors, lecturers, and students of the university. It can be concluded that the university is partially adherence with the framework at the time this research was performed. Several recommendations are proposed to the university to be more sustainable.
E2001	Study of Factors Caused Dengue Haemorrhagic Fever Case Study: Pasuruan, Jawa Timur-Indonesia **Khaidar Ali** and Isa Ma'rufi University of Jember *Abstract*—Dengue Haemorrhagic Fever is one of the international health problem which a half of the world's population is now at risk. The aim of this study is to describe the DHF situation in Pasuruan and factors affecting DHF cases. This study is using descriptive method. Samples were taken from the 10 sub-districts which accumulated of the highest DHF cases from 2009-2013. This study has showed DHF trend factors in 2013 showed the number of population density low categories correlated 0% with the high category of DHF cases, the high household with PHBS categories correlated 0% with the high category of DHF cases, and the number of population mobility low categories correlated 71,43% with the low category of DHF cases. The conclusion of this study show up that Population Density, Household with PHBS And population mobility are fit up with the DHF transmission theory.
E3002	Automated Classification System for Polymeric Insulation Surface Condition **A. N. Ramani**, A. R. Abdullah, N. Norddin, N. Q. Z. Abidin and A. Aman Universiti Teknikal Malaysia Melaka (UTeM) *Abstract*—Polymeric insulation is commonly used for high voltage engineering as they are light, easy to fabricate, and have good dielectric properties. Ageing factors affect the long term performance of insulating material. Leakage current is broadly accepted as tools in the determination of surface condition and level of its severity. Hence, an automated monitoring system is needed to reduce diagnostic time and ensure quality of insulators performance. Due to the limitation fast Fourier transforms (FFT), this research used spectrogram as time frequency distribution technique that represents the leakage current signals in the joint time frequency domains which appropriate to analyze the leakage current signals that consist of multi-frequency components and magnitude variations. This technique extract relevant information from leakage current (LC) signal and then leakage current (LC) parameters are estimated to identify its characteristics. Surface condition on High Density Polyethylene (HDPE) and Polypropylene (PP) are investigated. The classification of material surface state could be determined instantaneously using the percentage of total waveform distortion. Thus, the outcome of this study shows that the system is very appropriate and reliable to be implemented for leakage current online monitoring system.

3:30pm-3:50pm	Coffee Break

SESSION–3 (ICBET&ICFEB 2015) (11 presenters)

Venue: Conference Room (HIT #608---6 Floor)

Session Chair: Prof. Sezai Ercisli

Time: 3:50pm-6:35pm

B0001	A Global Approach for Medical Image Denoising via Sparse Representation **Yi Guo**, Hanchao Chai, and Yuanyuan Wang Fudan University *Abstract*—In this paper, a novel global noise reduction approach based on the sparse representation and nonlocal means algorithm is proposed to enhance the image qualities of various medical imaging modalities, including ultrasound images and magnetic resonance images. By using an overcomplete dictionary, a medical image is decomposed into a sparsest coefficients matrix populated primarily with zeros. A nonlocal means algorithm is developed to deal with these sparse coefficients to exploit the repetitive characters of structures in the whole image, realizing a "truly" global denoising. With synthetic and clinical data of ultrasound images and magnetic resonance images, this approach has been compared with other five state-of-the-art denoising methods. The experiments quantitative results demonstrate the effectiveness of our approach, especially superior in reducing the noise while well preserving the tissue details. It is concluded that our proposed approach is capable of enhancing image quality in both ultrasound and magnetic resonance images. It has a broad field of applications and will increase the diagnostic potential of the medical images.
B0002	Measurement of Skin Surface pH with a Non-Invasive Dry pH Sensor **Takuto Nagashima**, Takashi Komeda, Shin-ichiroh Yamamoto, Tatsuhiko Yajima, and Takehito Kemuriyama Shibaura Institute of Technology *Abstract*—Recent reports suggest that skin barrier function and atopic dermatitis are related to skin surface pH. We are developing a portable multifunctional skin measurement system for evaluating data such as skin pH and water content. The system uses a non-invasive method for measuring the skin's surface pH and does not require addition of water. Previously, we reported a flat, dry pH sensor based on the Nernstian response that was fabricated by ion plating. When the sensor was used on the skin, the voltage was constantly elevated because of water evaporation from the skin. Herein, we measured the skin surface pH with the dry pH sensor and a glass electrode to compare non-invasive measurements and measurements with added water. The sensor was tested by using a standard pH solution and a

	correlation between pH and voltage was found. All experiments were carried out on the same region of the left forearm of healthy male subjects at constant room temperature and humidity (23 ℃, 30% RH). Skin surface pH was measured for 2 min with the dry electrode and with a glass electrode, and then the skin water content was measured. The increase in voltage caused by water evaporation from the skin was subtracted from the dry pH sensor results. The skin surface pH was different between the non-invasive dry sensor and the conventional sensor. The response of the pH sensor voltage was affected by skin water evaporation and by water-soluble substances in the stratum corneum.
B0004 Poster	How Electromyography Readings from the Human Forearm are Made Cryptic, Trivial, or Non-Trivial Information for Use in Synthetic Systems **Ahmad Yusairi Bani Hashim**, Zinvi Fu, Zamberi Jamaludin, and Imran Syakir Mohamad Universiti Teknikal Malaysia Melaka *Abstract*—The success of reading potentials generating from human muscle activities is evident that proves that the human body's neural system is naturally electronics. Now, modern engineering is accepting it as one field of engineering science. Due to this, the concept of a cyborg is beginning to realize as products such as exoskeletons and neuroprostheses. The object of this work, however, is to view from a different perspective as to how this is beneficial to the functions beyond the mentality of today's applications. We hypothesized that the recorded potentials from muscle activities may be regarded similar as to the signals that jump between synapses in the biological neurons. We suggest that these signals, instead of mere electrical in nature, their waveforms might include emotion characteristics from uniquely combined muscle activities and feeling. The system codes the signals where the newly created information may be made cryptic, trivial, or nontrivial depending on how they are going to be utilized in the synthetic systems. So that the artificial system could sense, for instance, the emotion of the human host.
B0006	Measuring Various Biomedical Concentration Using Micro-ball Lens Probe **Vellen John**, Ninik Irawati, Norfizah Md Ali, and Sulaiman Wadi Harun UNIVERSITY OF MALAYA *Abstract*—A simple sensor design is proposed and demonstrated using polymeric micro ball-lens (MBL) at the cleaved tip of microfiber couple (MFC) for detection of different concentration of biochemical solutions. A beaker with a mirror attached to it was used to contain the biochemical with various concentrations. The MBL probe is fixed perpendicular to a flat mirror which is placed at the bottom of the biochemical container at a fixed distance of 1.3 mm throughout the experiment. The micro-ball lens was first immersed in de-ionized water to measure the output voltage of a 0 ppm solution concentration, followed by glucose, sodium chloride, and uric acid solution with concentrations vary from 100 to 500 ppm. The sensitivity of the sensor to the glucose solution is 0.011 dB / ppm and the slope shows a good linearity of more than 99%. For the sodium chloride and uric acid solution, the sensitivity of the sensor is 0.010 dB/ppm and 0.020 dB /ppm respectively.
B0007	Homemade an Atmospheric Pressure Cold Plasma Sterilization Box and Inactivation of *E. coli* **Jing-Wun Huang**, Chun-Hao Fu, Shr-wai Ho, and Ming-Chen Wang Chung Yuan Christian University

	Abstract—The atmospheric pressure plasma has been extensively applied to biomedical, like sterilization, cell proliferation, wound healing and cell apoptosis. Plasma contains many species, such as ions, atoms, radiation, electrons and chemically active substances. After surgery, the surgical instruments need to be processed by multiple traditional sanitizing procedures, which are relatively time-consuming. In order to the instruments can be reused multiple times by doctor during surgery. In this study, we design and making a box with sterilization of atmospheric pressure plasma, which is designed by using the type of dielectric barrier discharge (DBD). The germicidal efficiency of *E. coli* is over 99% after 600 s plasma treatment, and we detected the reactive oxygen species (ROS) such as oxygen and hydroxyl radical by optical emission spectrometer (OES). In the future, in order to profit sterilization rapidly and the plasma effect can be used in clinical. We hope this research can be used really in medical surgical instruments.
B0008	Addition of Titanium Dioxide and Sources Effects on UV Transmittance and Hydrophilicity of Chitosan Film **Li-Wen Wang** and Kuo-Feng Chou Department of Biomedical Engineering, Yuanpei University *Abstract*—A hybrid membrane of chitosan and titanium dioxide ($TiO_{2)}$ was formed for the purpose of protecting skin. Chitosan extracted from shrimp shells mixed with 0~4wt% TiO_2 particles by sol-gel hybrid method. The hybrid was coated on glass slide for the photo spectrum analysis and hydrophilicity testing. Transmittance of Ultraviolet (UV)-Visible light (230nm~800nm) of the hybrid was determined by a UV-Visible photo spectrum. The hydrophilicity of hybrid was measured by contact angle method. The sample contained 1wt% has best UV absorption capability. For the sample with high TiO_2 concentration, the dispersion of TiO_2 is low and particle size is large so that the absorption of UVB becomes weak. On the other hand, the effect of the concentration of chitosan on the transmittance of UV is not significant. The hydrophilicity of hybrid could be improved by raising the concentration of chitosan. The hybrid could be applied into the dressing material which could block UV radiation.
B0009	Relative Pose Estimation for the Femoral Component in Computer-Assisted Total Hip Replacement Surgeries **Jiyang Gao**, Hong Chen, Shaojie Su, and Zhihua Wang Institute of Microelectronics, Tsinghua University *Abstract*—Numerous factors influence the rate of dislocation after total hip replacement (THR) surgeries and malposition of the acetabular and femoral component has long been recognized as an important cause. To help surgeons improve the accuracy of the positioning of the components, a computer-assisted system for THR surgeries that estimates and displays the relative pose of femoral and acetabular component is proposed. The system consists of a miniature camera that is fixed inside the femoral prosthesis trial and a set of designated reference patterns that are printed on the internal surface of the acetabular prosthesis trial. In the initialization process, the image, which contains reference patterns on the internal surface of the acetabular cup, is captured and analyzed. As the femoral component moves, images are captured at different poses and compared with the initial image to establish correspondences of feature points. The relative pose matrix of femoral component is recovered from the fundamental matrix that is estimated by the correspondences of feature points. The system

	has been evaluated under the simulation with rotation matrix and translation vector and the experimental results have validated the effectiveness of the proposed pose estimation method.
B0011	The Used of Nd: YAG Laser for Ablation of Dental Material **Noorsyazwani Zulkifli**, Fatanah M. Suhaimi, M. Khairul Azhar A.Razab, M. Suhaimi Jaafar, and Norehan Mokhtar UNIVERSITI SAINS MALAYSIA *Abstract*—The effect of Nd: YAG laser pulses with a wavelength of 1064nm and 3mm of beam diameter on dental tissue enamel contains an adhesive material (transbond plus self-etching primer) is studied. Laser provides an ability to accurately deliver a large amount of energy into a confined regions. Additionally, Field Emission Scanning Microscopy (FESEM) and Energy Dispersive X-ray (EDX) are used to analyze the physical and chemical characteristics of raw teeth, teeth with an adhesive and teeth after laser irradiation. Sample was irradiated at 1.5Hz of pulse rate, 200ms of pulse width and 150J cm^{-2}, 200J cm^{-2}, 250J cm^{-2}, and 300J cm^{-2} of energy fluence. The effects of using multiple settings of fluence are discussed. It is demonstrated that, the ablation threshold for adhesive materials are much lower than the fluence threshold laser for enamel and higher with thicker adhesive material. Besides, x-ray energy dispersive spectroscopy (EDX) analysis of enamel indicates several elements include oxygen, phosphorus, calcium, silicon, and carbon on raw teeth. Considering the thickness of the transbond plus self-etching primer and the high pulse Nd: YAG laser, it is demonstrated that the effective ablation is between 250-300J cm^{-2}. In conclusion, Cynosure Cynergy Nd: YAG laser has high potential in removing dental adhesive material and therefore it can be used clinically.
B0013	Valuable Insights on the Super-Infection Model of Immune System T (IT) Cells for crHIV-1 Gene Therapy Yang Yu, **Yufei Xie**, Zhiyao Jin, Kai Song, and Xiaohui Liu Nanyang Technological University *Abstract*—Development of crHIV-1 vectors has been tested in vitro, but the requirements for a crHIV-1 vector to proliferate and persist in vivo have not been fully explored. The aim of this study is to construct an expanded mathematical model to better simulate the mechanism. The expanded gene therapy model representing a super-infection from crHIV-1 on I_t and corresponding equations will be investigated using Matlab. The HIV-1 set point has been significantly lowered down to 10^2 grade and Matlab plots have been reproduced with almost the same trends. Results from super-infection Model showed significantly improved HIV-1 set point reduction compared to basic one. Thus, crHIV-1 super-infection, which is likely to occur, improves therapy.
A0004	INDUSTRY PHARMACEUTICALS: CHITOSAN AS AN - ALTERNATIVE REPLACEMENT GELATIN CAPSULES ON SHELL Laras Permatasari and **Rosma Alami** Bogor Agricultural University *Abstract*—Chitosan is a biopolymer derived from the deacetylation of chitin. Chitosan is composed of poly (2-deoxy-2- asetilamin-2-glucose) and poly (2-deoksi- 2-aminoglukosa) that binds (1-4) β-glycosidic. Chitosan character is non-toxic, biodegradable and biocompatible. Chitosan also has a very much usefulness in everyday life such as adsorbent

	of heavy metal waste and dye, preservatives, antifungal, cosmetics, pharmaceuticals, flocculants, anticancer and antibacterial. The pharmaceutical industry is now preoccupied with issues about capsule shell. The main ingredient of making current commercial capsule shell is gelatin derived from cow bones and pork skin. The weakness shell gelatin capsules of pig skin makes this product can't be consumed by the majority of society, while gelatin made from cow bones makes people worried about contracting mad cow disease. from the cow. Standard shell capsules for pharmaceutical purposes must have the specifications for water content is 12, 5% to 15%. Gel strength in the range of 240 bloom to 140 bloom. Viscosity in the range of 4, 7 cps to 3, 2 cps. Ash content does not outtop 5%. The degree of acidity (pH) in the range of 5, 5 to 5, 7. The results of several studies on samples of shrimp chitosan obtained result is 5, 56% water content, ash content is 0,8%, and the viscosity was 120,5 cps. Manufacture of chitosan capsule shell is intended to substitute shell gelatin capsules made from pork or cow bones. Increase the value of the capsule shell because chitosan character as antibacterial, antiradiasi, as a preservative of food products, and can absorb heavy metals.
A1003	Effect of active and passive smoking on heavy metals toxic and antioxidant trace elements **D. Viroonudomphol**, L.Suwanton, U. Pinyosirikul, S., Satsue, and T. Harnroongroj Siam University *Abstract*—Smoking is not only associated with decreased concentrations of several antioxidant vitamins and trace elements but also increased morbidity and mortality risk of diseases. Those due to heavy metal, other toxic and antioxidant trace elements in tobacco smoke are not sufficiently emphasized. Tobacco smoking influences the concentrations of several elements in some organs. We sought to determine the relationship between the known effects of some trace elements and other biochemically important elements (cadium (Cd), chromium (Cr), copper (Cu), mercury (Hg), lead (Pb), selenium (Se) and zinc (Zn)) which are linked with smoking. Cigarette smoking may be a substantial source of intake of these hazardous elements not only to the smokers but also, through passive smoking, to nonsmokers. Studies were carried out on 150 smokers (50 industrial cigarette smokers, 50 passive smokers and 50 local tobacco smokers) compared with 50 nonsmoking controls.

6:50pm	**Dinner**

Conferences ending, thanks !

Conference Venue

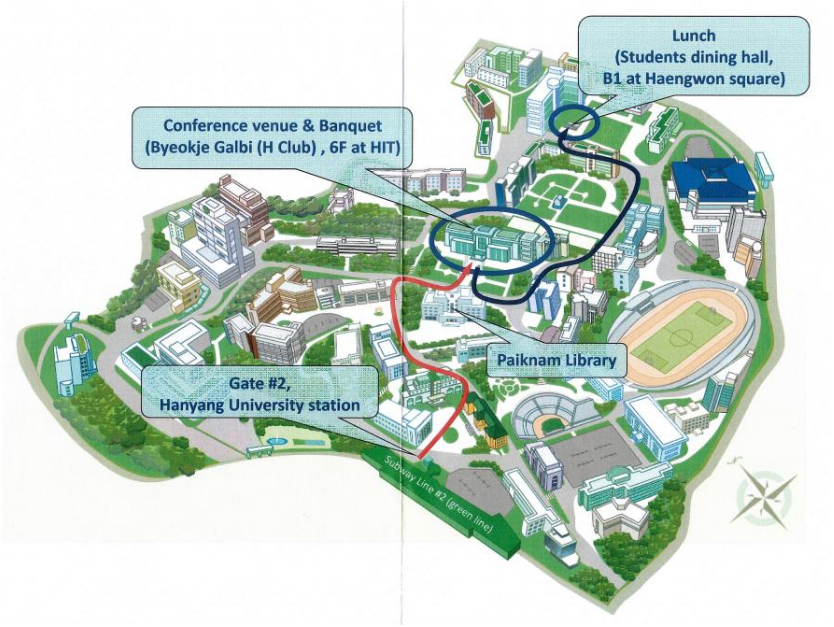
HANYANG UNIVERSITY

http://www.hanyang.ac.kr/english/

222 Wangsimni-ro, Seongdong-gu, Seoul 133-791, Korea

The conference will be held at Hanyang Institute of Technology (HIT), Hanyang University. Hanyang University is a private research-intensive university in South Korea. Hanyang University began as the nation's first private college of Engineering, producing numerous specialists who have worked as the backbone of the nation's industrialization and modernization. It is considered one of the most prestigious engineering universities in South Korea.

Both the conference and banquet will be held at the rooms of HIT sixth floor. Lunch will be provided at a restaurant of Haengwon square B1 close to HIT. You may download and refer to the campus map so that you can conveniently approach.



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APCBEES FORTHCOMING CONFERENCES

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

CONFERENCE INFORMATION		PUBLICATION
May 12-13, 2015, Warsaw, Poland		
ICCMP 2015	2015 International Conference on Chemical Materials and Process http://www.iccmp.org/	Advanced Materials Research (ISSN: 1022-6680)
ICBPE 2015	2015 2nd International Conference on Biomedical and Pharmaceutical Engineering http://www.icbpe.org/	The Journal of Medical and Bioengineering(JOMB, ISSN: 2301-3796)
ICFAE 2015	2015 International Conference on Food and Agricultural Engineering http://www.icfae.org/	The Journal of Advanced Agricultural Technologies (JOAAT, ISSN:2301-3737)
May 23-24, 2015, Singapore		
ICEST 2015	2015 6th International Conference on Environmental Science and Technology http://www.icest.org/	International Journal of Applied Environmental Sciences (ISSN: 0973-6077)
ICBBT 2015	2015 7th International Conference on Bioinformatics and Biomedical Technology http://www.icbbt.org/	Information and Communication Technologies (ISSN: 1743-3517)
ICPIE 2015	2015 4th International Conference on Petroleum Industry and Energy http://www.icpie.org/	the Journal of Industrial and Intelligent Information (JIII, ISSN: 2301-3745)
June 15-16, 2015, Madrid, Spain		
ICCPE 2015	2015 4th International Conference on Chemical and Process Engineering (ICCPE 2015) http://www.iccpe.org/	International Journal of Chemical Engineering and Applications (IJCEA, ISSN:2010-0221)
ICEEB 2015	2015 4th International Conference on Environment, Energy and Biotechnology (ICEEB 2015) http://www.iceeb.org/	Volume of Journal (IPCBEE, ISSN: 2010-4618)
ICAAA 2015	2015 5th International Conference on Asia Agriculture and Animal (ICAAA 2015) http://www.icaaa.org/	Journal of Advanced Agricultural Technologies (JOAAT ISSN: 2301-3737)
June 25-26, 2015, Bangkok, Thailand		

ICBBS 2015	2015 4th International Conference on Bioinformatics and Biomedical Science http://www.icbbs.org/	International Journal of Bioscience, Biochemistry and Bioinformatics (IJBBB, ISSN: 2010-3638); Journal of Medical and Bioengineering (JOMB, ISSN: 2301-3796)
ICWT 2015	2015 International Conference on Water Technology http://www.icwt.org/	Journal of Environmental Science and Development (IJESD, ISSN:2010-0264)
ICNFS 2015	2015 4th International Conference on Nutrition and Food Sciences http://www.icnfs.org/	the Volume of Journal (IPCBEE, ISSN: 2010-4618)
July 09-10, 2015, Chengdu, China		
ICEEA 2015	2015 6th International Conference on Environmental Engineering and Applications http://www.iceea.org/	Journal of Clean Energy Technologies (JOCET, ISSN: 1793-821X)
ICBFE 2015	2015 4th International Conference on Biotechnology and Food Engineering http://www.icbfe.org/	WIT Transactions on Biomedicine and Health (ISSN: 1743-3525) or International Journal of Bioscience, Biochemistry and Bioinformatics (IJBBB, ISSN: 2010-3638)
ICEBB 2015	2015 5th International Conference on Environmental, Biomedical and Biotechnology http://www.icebb.org/	International Journal of Bioscience, Biochemistry and Bioinformatics (IJBBB, ISSN: 2010-3638) or Journal of Medical and Bioengineering (JOMB, ISSN: 2301-3796),
July 29-30, 2015, Jeju Island, Republic of Korea		
ICFNT 2015	2015 2nd International Conference on Food and Nutrition Technology http://www.icfnt.org/	Volume of International Proceedings of Chemical, Biological and Environmental Engineering Journal (IPCBEE, ISSN: 2010-4618)
ICAER 2015	2015 International Conference on Advances in Environment Research http://www.icaer.org/	WIT Transactions on the Built Environment (ISSN: 1743-3509)
ICABC 2015	2015 2nd International Conference on Advances in Biology and Chemistry http://www.icabc.org/	International Journal of Bioscience, Biochemistry and Bioinformatics (IJBBB, ISSN: 2010-3638) or International Journal of Chemical Engineering and Applications (IJCEA, ISSN:2010-0221)
Aug. 05-06, 2015, Paris, France		
ICGES 2015	2015 4th International Conference on Geological and Environmental Sciences http://www.icges.org/	International Journal of Geological Engineering (IJGE)
ICEAE 2015	2015 5th International Conference on Environmental and Agriculture Engineering http://www.iceae.org/	Journal of Advanced Agricultural Technologies (JOAAT ISSN: 2301-3737) or International Journal of Environmental Science and Development (IJESD ISSN: 2010-0264)

ICCCE 2015	2015 6th International Conference on Chemistry and Chemical Engineering http://www.iccce.org/	International Journal of Chemical Engineering and Applications (IJCEA, ISSN: 2010-0221)
Aug. 27-28, 2015, Hong Kong		
ICSEE 2015	2015 2nd International Conference on Substantial Environmental Engineering http://www.icsee.org/	Volume of International Proceedings of Chemical, Biological and Environmental Engineering Journal (IPCBEE, ISSN: 2010-4618)
ICBBE 2015	2015 2nd International Conference on Biomedical and Bioinformatics Engineering http://www.icbbe.com/	Journal of Medical and Bioengineering (JOMB, ISSN: 2301-3796)
CCEA 2015	2015 6th International Conference on Chemical Engineering and Applications http://www.cbees.org/ccea/	International Journal of Chemical Engineering and Applications (IJCEA, ISSN: 2010-0221)
Sep. 05-06, 2015, Shanghai, China		
ICREE 2015	2015 3rd International Conference on Renewable Energy and Environment (ICREE 2015)	International Journal of Smart Grid and Clean Energy (IJSGCE, ISSN: 2315-4462)
ICBMS 2015	2015 3rd International Conference on Biological and Medical Sciences (ICBMS 2015)	International Journal of Pharma Medicine and Biological Sciences (IJPMBS, ISSN: 2278-5221)
ICCEG 2015	2015 International Conference on Civil Engineering and Geology (ICCEG 2015)	WIT Transactions on the Built Environment (ISSN: 1743-3509)/International Journal of Geological Engineering (IJGE, ISSN: 2301-3818)
Sep. 14-15, 2015, Paris, France		
ICBEE 2015	2015 7th International Conference on Chemical, Biological and Environmental Engineering http://www.icbee.org/	Volume of International Proceedings of Chemical, Biological and Environmental Engineering Journal (IPCBEE, ISSN: 2010-4618)
ICECS 2015	2015 8th International Conference on Environmental and Computer Science http://www.icecs.org/	Journal of Environmental Science and Development (IJESD, ISSN:2010-0264) International Journal of Computer Theory and Engineering (IJCTE, ISSN: 1793-8201),
ICBEM 2015	2015 5th International Conference on Biotechnology and Environment Management http://www.icbem.org/	International Journal of Bioscience, Biochemistry and Bioinformatics (IJBBB, ISSN: 2010-3638) Journal of Life Sciences and Technologies (JOLST, ISSN: 2301-3672)
Oct. 23-25, 2015, Beijing, China		

ICAFS 2015	2015 2nd International Conference on Advances in Food Sciences (ICAFS 2015) http://www.icafs.org/	Volume of International Proceedings of Chemical, Biological and Environmental Engineering Journal (IPCBEE, ISSN: 2010-4618)
ICEBS 2015	2015 5th International Conference on Environment and BioScience (ICEBS 2015) http://www.icebs.org/	International Journal of Pharma Medicine and Biological Sciences (IJPMBS, ISSN: 2278-5221)
ICAAS 2015	2015 6th International Conference on Agriculture and Animal Science (ICAAS 2015) http://www.icaas.net/	Journal of Advanced Agricultural Technologies (JOAAT, ISSN:2301-3737)

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