## 2015 APCBEES FLORENCE CONFERENCES SCHEDULE

2015 2nd International Conference on Chemical and Biological Sciences (ICCBS 2015)
2015 2nd International Conference on Civil and Urban Engineering (ICCUE 2015)
2015 2nd International Conference on Food Security and Nutrition (ICFSN 2015)
2015 1st Journal Conference on Clean Energy Technologies (JCCET 2015)

Florence, Italy

March 19-20, 2015

**AC Hotel Firenze** 

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# **2015 APCBEES Florence Conferences Introduction**

Welcome to CBEES 2015 conferences in Florence, Italy. The objective of the Florence 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 Chemical and Biological Sciences, Civil and Urban Engineering, Food Security and Nutrition, and Clean Energy Technologies.

2015 2nd International Conference on Chemical and Biological Sciences (ICCBS 2015)

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





International Journal of Chemical Engineering and Applications (IJCEA, ISSN:2010-0221) or International Journal of Bioscience, Biochemistry and Bioinformatics (IJBBB, ISSN: 2010-3638), and all papers will be included in the Engineering & Technology Digital Library, and indexed by EBSCO, WorldCat, Google Scholar, Cross ref, ProQuest, CABI and sent to be reviewed by EI Compendex and ISI Proceedings.

\* Conference website and email: <a href="http://www.iccbs.org/">http://www.iccbs.org/</a>; <a href="iccbs@cbees.net">iccbs@cbees.net</a>

#### 2015 2nd International Conference on Civil and Urban Engineering (ICCUE 2015)



- Paper publishing and index: ICCUE 2015 papers will be published in:

  International Journal of Engineering and Technology (IJET, ISSN:1793-8236), and all papers will be included in the Chemical Abstracts Services (CAS), DOAJ, Engineering & Technology Digital Library, Google Scholar, Ulrich Periodicals Directory, Crossref, ProQuest, Electronic Journals Library, Index Copernicus, EI (INSPEC, IET). and sent to be reviewed by EI Compendex and ISI Proceedings.
- Conference website and email: <a href="http://www.iccue.org/;iccue@cbees.net">http://www.iccue.org/;iccue@cbees.net</a>

#### 2015 2nd International Conference on Food Security and Nutrition (ICFSN 2015)



- \* Paper publishing and index: ICFSN 2015 papers will be published in: 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, WorldCat, Google Scholar, Cross ref and sent to be reviewed by Compendex and ISI Proceedings.
- Conference website and email: <a href="http://www.icfsn.org/">http://www.icfsn.org/</a>; <a href="icfsn@cbees.net">icfsn@cbees.net</a>

#### 2015 1st Journal Conference on Clean Energy Technologies (JCCET 2015)



- \* Paper publishing and index: JCCET 2015 papers will be published in:

  JOCET (ISSN: 1793-821X) as one volume, and will be included in Engineering &

  Technology Library, EBSCO, Ulrich's Periodicals Directory, BE Data and Google Scholar,

  ProQuest, Cross ref and sent to be reviewed by Ei Compendex and ISI Proceedings.
- Conference website and email: <a href="http://www.jocet.org/jccet/1st/index.htm">http://www.jocet.org/jccet/1st/index.htm</a>;

#### jccet01@iacsitp.com

#### **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 20, 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 19, 2015

10:00-17:00 Arrival and Registration(**Ground Floor**)

#### March 20, 2015

8:30-18:00 Registration and Conference Presentation

#### **Conference Room (Forum B, First Floor)**

Opening Remarks 8:30-8:40 Keynote Speech I 8:40-9:20 Keynote Speech II 9:20-10:00 Coffee Break & Photo Taking 10:00-10:20

#### **Conference Room Forum B, First Floor**

**Session 1:** 10:20-12:20

8 presenters--Chemistry & Biomedical Topic ICCBS 2015

### **Conference Room Forum C, Ground Floor**

**Session 2:** 10:20-12:20

8 presenters--Civil Engineering Topic

**ICCUE 2015** 

**Lunch:** 12:20~13:30

Venue: Convivio Restaurant, Ground Floor

(Please arrive on time at "Conference Room (Forum B, First Floor)" by 13:15 after lunch to copy the ppt into the laptop)

## **Conference Room Forum B, First Floor**

**Session 3:** 13:30-15:00

6 presenters--Food Science Topic

**ICFSN 2015** 

## **Conference Room Forum C, Ground Floor**

**Session 4:** 13:30-15:15

7 presenters--Civil Engineering Topic

**ICCUE 2015** 

**Coffee Break:** 15:15-15:35

**Venue:** Ground Floor

It offers you a great time to communicate with other experts about your study field and research results

## **Conference Room Forum B, First Floor**

**Session 5:** 15:35-17:35

8 presenters--Urban & Environment Topic

**ICCUE&JCCET 2015** 

## Conference Room Forum C, Ground Floor

**Session 6:** 15:35-17:50

9 presenters--Civil Engineering Topic

**ICCUE 2015** 

**Dinner** 18:30

March 21, 2015

One Day Tour Starting at 8:30 from Hotel Lobby

## **Presentation Tracking Contents**

	SESSION	1 (ICCRS 2015)		SESSION 2 (IC	CHE 2015)
SESSION-1 (ICCBS 2015) Venue: Conference Room (Forum B, First Floor)		SESSION-2 (ICCUE 2015)  Venue: Conference Room (Forum C, Ground Floor)  Session Chair: Asso. Prof. Dr Nor'Aini Yusof  Time: 10:20-12:20			
Session Chair: Prof. Yan-Ping Chen Time: 10:20-12:20					
					PAGE
7	F4001	Norzana Abd Ghafar	10	E0031	Selen DURAK
7	F0001	Yan-Ping Chen	11	E0033	Tulin Vural Arslan
7	F0004	Ositadinma Chinyere Ugbogu	11	E0034	Tülin Vural Arslan
8	F0006	Lavinia Lupa	11	E0035	Elif Secer
8	F0007	Mohamed E. Khalifa	12	E0002	Alireza Lavaei
9	F0015	Faizah Othman	12	E0003	Alireza Lohrasbi
9	F2004	D. Sakthi Kumar	12	E0009	Zhang, D.
10	F3002	Sunita D. Shirvalkar	13	E0010	Yuchen Sharon Sung
	SESSION-	3 (ICFSN 2015)		SESSION-4 (IC	CUE 2015)
Ven		oom (Forum B, First Floor)	Venue:		orum C, Ground Floor)
		sso. Prof. James Epps		ssion Chair: Prof. Jose	,
		13:30-15:00	Time: 13:30-15:15		
13	Y0010	Solange G. Canniatti-Brazaca	16	E0013	Ali Khoshraftar
14	Y0011	Lauri Wright	16	E0015	N. Hosseinzadeh
14	Y0012	Uta Schnabel	17	E0018	S. Sasaki
15	Y0013	Nora Stolz	17	E0021	H. Awang
15	Y3004	Amon Taruvinga	18	E0027	Alireza Mojtahedi
16	Y3005	Ifueko Ukponmwan	18	E0022	I. Acosta
			18	E0037	Rakesh Kumar
	SESSION-5 (JC	CCET&ICCUE 2015)		SESSION-6 (IC	CUE 2015)
Ven	ue: Conference Ro	oom (Forum B, First Floor)	Venue:	Conference Room (Fe	orum C, Ground Floor)
Ses	sion Chair: Asso. I	Prof. Yuchen Sharon Sung		Session Chair:	I. Acosta
	Time:	15:35-17:35		Time: 15:35	5-17:50
19	CE028	J. Aristiz abal	23	E0039	Srikonda Ramesh
19	CE029	Christine Power	23	E3006	N. J. Mistry
20	CE030	R. Boonsu	24	E3007	Namrata Jariwala
20	CE031	Francine Baker	24	E0029	Injae Yu
21	CE033	Maher Rizkalla	24	E0030	Yoojung Jo
21	E0019	Farzaneh Fakheri Raof	25	E0032	Bhaven N. Tandel
22	E0020	Nor'Aini Yusof	25	E3004	Jose Mar á del Campo
22	E0028	R A Christian	26	E3005	Jose Mar á del Campo
			26	E4002	Hassan Ebrahimi Asl

#### **Attention Please:**

- 1. Each presenter has about ten 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 19, 2015 (Thursday)** 

## **Venue: Hotel Lobby (Ground Floor)**

10:00-17:00	Arrival and Registration
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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 20, 2015.

## Morning, March 20, 2015 (Friday)

#### **Venue: Conference Room (Forum B, First Floor)**

8:30-8:40		Opening Remarks Prof. Ioana Demetrescu University Politehnica Bucharest, Romania
8:40-9:20		Keynote Speech I  Prof. Maciej Baginski  Faculty of Chemistry, Gdansk University of Technology (GUT),  Poland  Topic: "Current Trends in Drug Design"
9:20–10:00		Keynote Speech II  Prof. Ioana Demetrescu  University Politehnica Bucharest, Romania  Topic: "Heavy Metals and Other Trace Elements as Factors of Risk for Nutrition and Health"
10:00-10:20	Coffee Break & Taking Photo	

#### SESSION-1 (ICCBS 2015) (8 presenters)

#### **Venue: Conference Room (Forum B, First Floor)**

Session Chair: Prof. Yan-Ping Chen Time: 10:20-12:20

F4001 | In vitro Characterization of Corneal Cells: a Step Towards Bioengineered Cornea

Norzana Abd Ghafar, E. Sharmila E. Latif, Choy Ker Woon, Ng Sook Luan, Jemaima Che

Hamzah, Chua Kien Hui

Universiti Kebangsaan Malaysia

Abstract—In vitro characterization of cells is an essential step to ascertain the phenotype of the cultured cells prior to the construction of any bioengineered organ. The present study aimed to characterize cultured corneal epithelial cells (CEC) and corneal stromal cells (CSC) with regard to morphology, gene and protein expressions. Corneal cells were isolated and cultured until passage 1 from six New Zealand white strain rabbits' eyes. The morphology of both cells was examined via phase contrast microscopy. CEC specific differentiation marker, Cytokeratin 3 (CK 3), was analyzed via gene expression and immunocytochemistry. CSC phenotype was analyzed via Aldehyde dehydrogenase (ALDH), Vimentin and alpha-smooth muscle actin ( $\alpha$ -SMA) expressions. CEC exhibited polygonal-shaped morphology with the expression of corneal epithelial specific marker, CK 3. Cultured CSC showed mixed phenotypes, both quiescent (ALDH) and active repair phenotypes (Vimentin and  $\alpha$ -SMA). The results revealed both cultured CEC and CSC exhibiting suitable phenotype which may be beneficial for application in the construction of bioengineered cornea.

F0001

Recrystallization and Micronization of 4-Dimethylaminoantipyrine Using the Rapid Expansion of Supercritical Solution (RESS) Process

#### **Yan-Ping Chen**

National Taiwan University, Taiwan

Abstract—The rapid expansion of supercritical solution (RESS) process was successfully applied in this study for the recrystallization and micronization of an active pharmaceutical ingredient (API) of 4-dimethylaminoantipyrine. The untreated 4-dimethylaminoantipyrine had a large mean particle size with very wide particle size distribution ranging from 22 to 2468  $\mu$ m. After the RESS treatment, the mean particle size of this API was significantly reduced to the desirable range of 1 to 5  $\mu$ m. Furthermore, more uniform and much narrower particle size distribution was obtained after the RESS process. It was observed that the variation of the pre-expansion and post-expansion temperatures has significant effect on the mean particle size, particle size distribution and crystal habit. The DSC and XRD analyses results showed that there was polymorph transformation during the RESS process. The dissolution rate measurements had been conducted for the original and RESS treated APIs. The results demonstrated that higher dissolution efficiency was obtained as a consequence of significant particle size reduction.

F0004

Microbial Flora, Proximate Composition and Vitamin Content of Juices of Three Fruits Bought from a Local Market in Nigeria

Ositadinma Chinyere Ugbogu, and Alloysius Chibuike Ogodo

Federal University Wukari, Taraba State, Nigeria

Abstract—Microbial flora, proximate composition and vitamin content of juices of three fruits bought from a local market in Nigeria were investigated. The assessment of the yeast and bacteria flora of the juices of the fruits revealed the presence of Candida pseudotropicalis, Candida tropicalis, Saccharomyces cerevisiae, Trichosporon asashii, Rhodotorula glutinis, Erwinia herbicola, Serratia species, Staphylococcus saprophyticus, Enterococcus faecium and Leuconostoc species. Candida pseudotropicalis Saccharomyces cerevisiae were present in all the test fruits, Candida tropicalis was present in watermelon and banana, Trichosporon asashii was present in pawpaw, watermelon while Rhodotorula glutinis was present in pawpaw fruit only. Erwinia herbicola was present in pawpaw and banana, Serratia species was present in pawpaw and watermelon while Staphylococcus saprophyticus was isolated from all the test fruits. The proximate analysis of the test fruits revealed them to be poor sources of protein but with high moisture content that ranged from 76.92 ±0.04% to 92.93 ±0.10%. The carbohydrate content ranged from 4.89 ±0.03% to 21.76 ±0.02%. The analysis of vitamins showed that the test fruits were good sources of vitamin A, B1, B2, C, D, E and K with values ranging from 0.009 ±0.01 mg/100 g for vitamin D in banana to 45.4±0.02mg/100g for vitamin C in pawpaw fruit.

F0006

Studies Regarding the Influence of the Ultrasonication Conditions on the Adsorption Performance of Obtained Ionic Liquid Impregnated Materials

**Lavinia Lupa** (Lecture), Adina Negrea, Mihaela Ciopec, Raluca Voda, Petru Negrea University Politehnica Timisoara, Faculty of Industrial Chemistry and Environmental Engineering, Romania

Abstract—The influence of the ultrasonication conditions (time and amplitude of ultrasonication) upon the adsorptive properties of the obtained ionic liquid impregnated material, in the removal process of Cs<sup>+</sup> ions from aqueous solutions, was studied. In the last years ionic liquids was used for the treatment of waste waters containing radionuclides. In order to minimize the treatment cost and to enhance the treatment efficiency, as an alternative to liquid-liquid extraction processes, the use of ionic liquid impregnated support was proposed as a new concept. In the present paper the ultrasonication was used for the impregnation of 1-Butyl-3-methylimidazolium hexafluorophosphate-[BmimPF6] onto Florisil support. Different physical-chemical analysis (scanning electron microscopy (SEM), energy dispersive XRay analysis (EDX), and FTIR- Fourier transform infrared spectroscopy) was used to characterize the obtained ionic liquid impregnated material. In order to obtain a stable and homogenous impregnation of the solid support surface with the studied ionic liquid which will achieve reproducible results in the Cs<sup>+</sup> adsorption processes it is not necessary to increase the ultrasonication time, but it should be used higher amplitude. The adsorption performance of the Florisil impregnated with [BmimPF<sub>6</sub>], using optimum conditions of ultrasonication, was studied as a function of Cs<sup>+</sup> ions initial concentrations. Adsorption isotherms like Langmuir, Freundlich, Dubinin-Radushkevich (D-R), and Temkin were used to analyze the equilibrium data at different concentrations. The experimental data showed good fit to the Langmuir isotherm, followed by the Temkin and Dubinin-Radushkevich isotherms and then the least fit was obtained with the Freundlich isotherm.

F0007

Antioxidant and Antitumor Impact of Certain Substituted Monoazo Thiazole-thiophene and/or Their Heterocyclic Seleno Derivatives

Mohamed E. Khalifa

Taif Unversity, Saudi Arabia

Abstract—Organo-selenium compounds have continued to attract the attention of a wide range of investigators due to their unique properties, which include antitumor and anticancer activities. On the other hand, both thiazole and thiophene nuclei are still of interest in organic chemistry due to their medicinal applications and agriculture pesticide action. In continuation of our interest in synthesis of N/S heterocyclic azo compounds, the synthesis of 3-amino-N-(4-aryl-5-arylazo-2-thiazolyl)-thieno[2,3-b]pyridine-2-carboxamide) along with seleno derivatives of pyridine, pyridazine and quinolone of the same moiety, were accomplished. All the synthesized compounds were in vitro screening of their antioxidant activity, antitumor activity against Ehrlich ascites carcinoma cell EACC cell line. The entire novel synthesized compounds are emerging as promising downstream candidates for cancer therapy due to their antioxidant and anticancer chemo preventive or apoptotic activities while being nontoxic. The novel synthesized compounds exhibited high efficiency based on in vitro screening of their antioxidant activity, antitumor activity against Ehrlich ascites carcinoma cell EACC cell line, besides their noticeable non-toxicity. The structural–activity relationship was studied based on the obtained data.

F0015

Effects of Virgin Coconut Oil on the Histomorphometric Parameters in the Aortae and Hearts of Rats Fed with Repeatedly Heated Palm Oil

Kogilavani Subermaniam, Qodriyah Haji Mohd Saad, Kamisah Yusof, **Faizah Othman** Universiti Kebangsaan Malaysia

Abstract—The study was carried out to investigate the effects of virgin coconut oil (VCO) on histomorphometric changes in the aorta and heart of thermoxidized palm oil-fed rats. Thirty two male Sprague-Dawley rats were divided into four groups: control group fed with normal diet; 5 times heated palm oil-fed group (5HPO) fortified with 15% of 5HPO; VCO group supplemented with 1.43ml/kg of VCO; and 5HPO + VCO group. The treatment lasted for four months. Upon sacrifice, aortic and heart tissues were processed for light microscopic studies. Light microscopic studies showed thickened intima and media of the aorta in two out of eight rats in the 5HPO group only, while the rest of the rats did not show any thickening of either the intima or media of the aorta. Intima media area (IMA) in the VCO, 5HPO and 5HPO+VCO was significantly increased compared to the control group. Circumferential wall tension (CWT) and tensile stress (TS) in the aorta of 5HPO showed a significant increase compared to the other groups. Cardiomyofibre width in 5HPO group showed a significant increase in size compared to the control, VCO and 5HPO+VCO groups. Cardiomyofibre nuclear size in the 5HPO group decreased in size significantly compared to the control, VCO and 5HPO+VCO groups. VCO supplementation at a dose of 1.43ml/kg showed protective effects on the aorta and heart of thermoxidized palm oil fed rats.

F2004

Application of Nanoformulations as Theragnostics Materials against Cancer

#### D. Sakthi Kumar

Toyo University, Japan

Abstract—Nanomaterials are finding more applications in the biomedical field as imaging materials and drug delivery vehicle to carry drugs to target site etc. [1,2]. New drugs and medical devices developed due to the fusion of bio and nano science could target and remove the cancer cells without making any collateral damage to healthy tissues.

We have developed a nano system in which we have used dual drugs paclitaxel and suramin; paclitaxel to act as drug against cancer and suramin to act against angiogenesis. For efficient

	2015 APCBEES FLORENCE CONFERENCES	
	targeting we have utilized triple targeting moieties folate, TEM7 and CD31. We found that	
	the developed nanoforumulation worked very well and selectively destroyed cancer cells. The	
	imaging moiety incorporated to the nano system helped us to image the cancer cells too.	
	We have also developed nanomaterials and biomaterials having applications in the field of	
	nanodrug delivery as well as in biotechnology.	
F3002	Antimalarial Activity of Medicinal Plants Vitex negundo Linn. and Tinospora cordifolia	
	Sunita D. Shirvalkar, Kiran V. Mangaonkar	
	Department of Chemistry, SIWS, Smt Thirumalai College of Science, Wadala, Mumbai,	
	India	
	Abstract—The aim of the present study was to evaluate the antimalarial activity of two	
	medicinal plants Vitex negundo Linn. and Tinospora cordifolia (Willd.) Meirs. Hook.f. and	
	Thoms. and their formulation. <i>Vitex negundo</i> is a hardy plant flourishing mainly in Indian	
	sub-continent belonging to the family Verbenaceae .Its reported biological activities are	
	anti-bacterial, anti-oxidant, analgesic, anti-inflammatory, anti-convulsant, anti-malarial,	
	hepatoprotective and insecticidal. Tinospora cordifolia belongs to the family	
	Menispermaceae. It is a large glabrous, perennial, deciduous, climbing shrub of fleshy stem	
	found throughout India and in China. Reported medicinal properties of this plant include	
	anti-diabetic, anti-pyretic, anti-plasmodic, anti-inflammatory, anti-arthritic, anti-oxidant,	
	anti-allergic, anti-stress, anti-malarial, hepatoprotective, immunomodulatory. The main	
	objective was to carry out the Acute toxicity studies and <i>In vitro</i> antimalarial activity of the	
	leaf powder of Vitex negundo, the stem powder of Tinospora cordifolia and their	
	formulation(1:1). Acute toxicity study was performed in accordance with OECD guidelines	
	423. No adverse effect or mortality was detected in Albino swiss mice. The in vitro	
	antimalarial evaluation was done according to WHO, 2001 guidelines. Results revealed that	
	the antimalarial activity of the methanolic extract of <i>Vitex negundo</i> leaves is good, whereas	
	the IC <sub>50</sub> value of the methanolic stem extract of <i>Tinospora cordifolia</i> was higher than the	
	reported values. The IC <sub>50</sub> value of the formulation was found to be promising.	

## **SESSION-2 (ICCUE 2015) (8 presenters)**

**Venue: Conference Room (Forum C, Ground Floor)** 

Session Chair: Asso. Prof. Dr Nor'Aini Yusof Time: 10:20-12:20

E0031	Industrialization and Bursa, the Evolving City: Changes in Housing Character after 1960 Saliha TUPAL YEKE, <b>Selen DURAK</b> , Tulin VURAL ARSLAN	
	Uludag University, Faculty of Architecture, Department of Architecture, Turkey	
	Abstract—Social identity of Bursa develops in line with the changes in its population and social, economic and political structure. The establishment of Turkey's first planned organized industrial district in Bursa in 1962 was a breaking point for the social and economic life. This process played an important role in the formation of new residential areas	

and new housing typologies in the city, as well. Models of traditional Turkish house fell into disuse and construction of apartment blocks and mass housing started to be seen within the framework of modernization. This study aims to discuss the changes in housing character of Bursa in terms of plan typologies. These changes are discussed by means of evaluating the plans of housing units which can be seen as the significant examples of different periods since 1960s. E0033 Socio-Cultural Structure and Space that Transformed Under the Influence of Population Movements (Migration) in Bursa Fatma Busra Guler, Tulin Vural Arslan, Selen Durak Uludag University, Faculty of Architecture, Department of Architecture, Turkey Abstract—Migration is a significant phenomenon which shaped cities' social, economical and characteristics throughout the history. Bursa has been a city which experienced many migration conquest by Ottomans in 14<sup>th</sup> century till today. The population development of the city was immigrants from Balkan countries. Especially Turkish immigrants coming from Bulgaria prefe Bursa because of its similar characteristics with Bulgarian cities in terms of topography, climat Urban environment in Bursa has shaped by the cultural values of immigrants that were transfer the history. The aim of this study is to discuss how the immigrants shape the spatial characteris how their cultural values affect the formation of their housing environments in Bursa. E0034 From The Aim of Creating More Habitable Cities To Typification H.Ceren Duman, Tülin Vural Arslan, Uludag University, Faculty of Architecture, Department of Architecture, Turkey Abstract—Rapid urbanisation in all over the world in the last fifty years has affected people's perceptions of life and raised their expectations with regard to quality of life. In this regard, especially raising the level of quality of life especially in housing environments has become the important priorities of governments' planning policies. In relation to this development, in Turkey as an alternative solution to the problem of housing stock that could not keep up with the speed of haphazard urbanisation, the Collective Housing Administration(TOKI) was With an aim of making cities more habitable, TOKI is rapidly carrying out numerous projects all over the country. However, during the process of this rapid development, homogenised cities are being created with the disregard for local values. In the scope of this study, the typification, on urban, neighbourhood and housing unit scales, resulting from the housing environments produced by TOKI will be discussed. E0035 Reflections of Socio-Cultural Changes on Urban Space in the 19th Century: The Case of Bursa Elif Secer, Selen Durak, Tulin Vural Arslan Bursa Orhangazi University, Turkey Abstract—The Industrialization Movement in Europe since 18th century affected daily life in Ottoman Empire. Depending on military and political failures against Western countries, Ottoman Empire began to reorganize itself through making reforms by adopting the Western culture and civilization. Many innovations occured in the Ottoman Empire's economic, political and social order with the presentation of Tanzimat Edict in 1839. These Westernization efforts also affected the socio-cultural and spatial structure of Ottoman cities. Bursa, the first capital of Ottoman Empire, was among the significant examples where the

reflections of these changes on urban fabric can be best observed. The aim of this study is to discuss the spatial transformation of Bursa from a typical Ottoman city into an industrial city. This discussion is based on the dynamics behind the emergence of new building typologies which differentiated from the traditional urban fabric with their functions and construction system.

E0002

Dynamic Optimization of Structures Subjected to Earthquake

Alireza Lavaei, Alireza Lohrasbi

Boroujerd Branch, Islamic Azad University, Iran

Abstract—To reduce the overall time of structural optimization for earthquake loads two strategies are adopted. In the first strategy, a neural system consisting self-organizing map and radial basis function neural networks, is utilized to predict the time history responses. In this case, the input space is classified by employing a self-organizing map neural network. Then a distinct RBF neural network is trained in each class. In the second strategy, an improved genetic algorithm is employed to find the optimum design. A 72-bar space truss is designed for optimal weight using exact and approximate analysis for the El Centro (S-E 1940) earthquake loading. The numerical results demonstrate the computational advantages and effectiveness of the proposed method.

E0003

Hydraulic Model of Dam Break using Navier Stokes Equation with Arbitrary Lagrangian-Eulerian approach

Alireza Lohrasbi, Moharram Dolatshahi Pirooz, Alireza Lavaei

Boroujerd Branch, Islamic Azad University, Iran

Abstract—The liquid flow and the free surface shape during the initial stage of dam breaking are investigated. A numerical scheme is developed to predict the wave of an unsteady, incompressible viscous flow with free surface. The method involves a two dimensional finite element (2D), in a vertical plan. The Naiver-Stokes equations for conservation of momentum and mass for Newtonian fluids, continuity equation, and full nonlinear kinematic free-surface equation, were used as the governing equations. The mapping developed to solve highly deformed free surface problems common in waves formed during wave propagation, transforms the run up model from the physical domain to a computational domain with Arbitrary Lagrangian Eulerian (ALE) finite element modeling technique.

E0009

Analytical Investigation of Seismic Behavior of Building Structures with an Inertial Force-Limiting Floor Anchorage System

Zhang, D., Fleischman, R.B., Zhang Z.

Nazarbayev University, Kazakhstan

Abstract—An innovative floor anchorage system is being developed that reduces inertial forces in building structures during major earthquakes. This goal is accomplished by providing the anchorage a design strength lower than that required to transmit the elastic diaphragm forces. Instead, at a predefined "cut-off" load, the anchorage deforms ductily, transforming the diaphragm seismic demands into relative displacement of the floor system with respect to the primary vertical elements of the lateral force resisting system. The floor anchorage system has the potential to reduce the diaphragm inertial forces, thereby lowering floor accelerations and reducing seismic demands on the lateral force resisting system, resulting in less damage to the structure, non-structural elements and building contents. This

	2015 APCBEES FLORENCE CONFERENCES
	paper presents preliminary analytical findings on the performance of the floor anchorage
	system, focusing on the sensitivity of system properties on structural seismic response. The
	analytical study shows significant seismic response reduction in the proposed floor anchorage
	system.
E0010	Parametric Models of Facade Designs of High-rise Residential Buildings
	Yuchen Sharon Sung, and Yingjui Tseng
	Feng Chia University, Taiwan
	Abstract—High-rise residential buildings have become the most mainstream housing pattern
	in the world's metropolises under the current trend of urbanization. The facades of high-rise
	buildings are essential elements of the urban landscape. The skins of these facades are
	important media between the interior and exterior of high- rise buildings. They not only
	connect between users and environments, but also play an important functional and aesthetic
	role. This research involves a study of skins of high-rise residential buildings using the
	methodology of shape grammar to find out the rules which determine the combinations of the
	facade patterns and to analyze the patterns' parameters using software Grasshopper. We chose
	a number of facades of high-rise residential buildings as source to discover the underlying
	rules and concepts of the generation of facade skins.
	This research also provides the rules that influence the composition of facade skins. The
	items of the facade skins, such as windows, balconies, walls, sun visors and metal grills are
	treated as elements in the system of facade skins. The compositions of these elements will be
	categorized and described by logical rules; and the types of high-rise building facade skins
	will be modelled by Grasshopper. Then a variety of analyzed patterns can also be applied on
	other facade skins through this parametric mechanism. Using these patterns established in the
	models, researchers can analyze each single item to do more detailed tests and architects can
	apply each of these items to construct the facades for their other buildings through various
	combinations and permutations. The goal of these models is to develop a mechanism to
	generate prototypes in order to facilitate design process of various facade skins.

12:20~13:30	Lunch	
12:20~15:50	Convivio Restaurant, Ground Floor	

## SESSION-3 (ICFSN 2015) (6 presenters)

**Venue: Conference Room (Forum B, First Floor)** 

Session Chair: Asso. Prof. James Epps

Time: 13:30-15:00

Y0010	Physicochemical, Sensory and Cooking Properties of Low Fat Beef Burgers with Addition of
	Fruit Byproducts and Canola Oil
	Miriam M. Selani, Gregório B. Margiotta, Sonia M. De S. Piedade, Carmen J.
	Contreras-Castillo, Solange G. Canniatti-Brazaca
	Agri-food industry and nutrition department, Luiz de Queiroz College of Agriculture,

University of São Paulo

Abstract—This study evaluated the addition of canola oil and pineapple, passion fruit and mango byproducts on physicochemical, sensory and cooking properties of burgers. Fourteen formulations were performed: conventional (CN) (20% fat) and formulations with 50% of fat reduction (10% fat): control (CT), without canola oil and fruit byproduct; and 12 formulations with canola oil (5%) and pineapple (PA) or passion fruit (PF) or mango (MA) byproducts in 4 concentrations (1, 1.5, 2, 2.5%). The burgers were analyzed for color, pH, water activity (Aw), cooking loss (CL), moisture retention (MR), fat retention (FR), reduction in diameter (RD), increase in thickness (IT), and sensory characteristics. The byproducts addition decreased CL, RD, IT and increased MR, indicating improvement in yield and better visual characteristics. Lightness was not affected by the byproducts addition and canola oil. PA and MA showed lower a\* and higher b\* values, respectively. The higher the amount of byproducts added, the lower the pH. Sensory characteristics were not affected by the byproducts and canola oil in the attributes of color, odor and overall acceptance of the burgers. In general, CT had the lowest scores for the attributes. Pineapple byproduct at 1.5% showed the best results as fat substitute in burgers.

Y0011 Coping Strategies, Their Relationship to Weight Status and Food Assistance Food Programs
Utilized by the Food-Insecure in Belize

#### Lauri Wright(Presenter) and James Epps

University of South Florida, USA

Abstract—Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. Food insecurity is a phenomenon that occurs not only in developing countries but also in developed countries and is recognized as a major public health concern. According to the Global Hunger Index, a measure of food insecurity, Belize is still considered a moderate hunger country. This study assessed the most common coping mechanisms of food insecure in Belize using validated indexes and evaluated the relationships between coping mechanisms, food insecurity level and body weight. Further, an assessment of food assistance programs available in the community was also conducted. This study found a high prevalence of food insecurity, 56%, in the Cayo District of Belize. The coping mechanisms utilized to increase food supply included incorporating dense food, pooling resources with family and relatives, divine intervention and purchasing discount foods. There were marked differences in the coping strategies employed by low food-insecure (LFS) families versus very low, food-insecure (VLFS) families; specifically, VLFS families utilized more irreversible, nutritionally-negative coping mechanisms. Differences in coping strategies may contribute to differences found in overweight and obesity percentages. Additionally, these coping strategies may predict prevalence and management of chronic diseases such as diabetes. Government and NGO food assistance programs need to be expanded and incorporate foods and education to improve health status.

Y0012 | Non-thermal Atmospheric Pressure Plasmas for Food Decontamination

**Uta Schnabel**, Mathias Andrasch, Rijana Niquet, Klaus-Dieter Weltmann1, Oliver Schlüter and Jörg Ehlbeck

Leibniz Institute for Plasma Science and Technology, Germany

Abstract—Plasma is used as a common technology for the treatment and modification of surfaces in a variety of industrial branches. Decontamination of inorganic materials by plasma is possible with deterioration of the materials properties of a few nanometres. A very new and innovative field of research is the application of non-thermal atmospheric pressure plasma on food for produce sanitation. The experimental set-up implements microwave plasma, which generates plasma processed air (PPA) containing manifold RNS-based chemical and antimicrobial compounds. Different agricultural produces were first contaminated with microorganisms followed by a treatment with PPA. After a post-plasma-treatment time of maximum 15 minutes with PPA reduction factors of microbiological load greater than 6 log were detected. Furthermore, germination and sensory examinations showed only little influences to the produce. The characteristics of plasma and its generated cocktail of chemical compounds leading to a high microbial inactivation on various specimens and offering a wide range of possible applications.

Y0013

Decontamination of Shell Eggs by Using Non-thermal Atmospheric Pressure Plasma **Nora Stolz**, Thomas Weihe, Jörg Stachowiak, Peggy Braun, Oliver Schlüter, Jörg Ehlbeck Leibniz Institute for Plasma Science and Technology, Germany

Abstract—Aims: Salmonellosis is the major food borne illness in the European Union. For example, 90,000 reported cases have been observed in 2011. The serovar S. Enteritidis, strongly associated with eggs and egg products, can be held responsible for the most of the non-typhoid infections. Generally, bacteria are frequently heat inactivated. But a decontamination based on a heat treatment is not feasible for raw table eggs. Additionally, according to the European regulations, a treatment with gamma radiation or washing of eggs in order to reduce the bacterial load is not permitted. Therefore, a dry, non-thermal method is needed to preserve the sensory and technological properties of raw shell eggs during decontamination.

**Methods**: Whole table eggs were artificially contaminated with S. Enteritidis. Subsequently, the contaminated area was treated with non-thermal atmospheric pressure plasma. Various parameters such as the treatment time and the plasma composition were analyzed. Afterwards, the surviving bacteria were washed off the egg shell and spread onto agar plates. Finally, the colony forming units were counted to determine the reduction achieved.

**Results**: Reductions of up to 2.4 log steps, which conforms to a reduction of 99.63% of the initial S. Enteritidis population, were achieved.

**Conclusion**: While demonstrating that non-thermal atmospheric pressure plasma is successfully reducing the number of surviving bacteria on the egg shell, this technique has to be adapted to the industrial needs and is not applicable yet. That is, process technology has to be developed.

Y3004

Consumers` Perceptions and Consumption Dynamics of African Leafy Vegetables (ALVs): Evidence from Feni Communal Area, Eastern Cape Province, South Africa

Amon Taruvinga and Rudzani Nengovhela

University of Fort Hare, South Africa

Abstract—Despite having multiple benefits and positive promise towards contributing to household food security, dietary diversity and dietary quality, African Leafy Vegetables` (ALVs) production, consumption and documentation is still characterized by extremely low volumes. Thus far, considering the claimed benefits in the face of low volumes, there is a

need to appraise consumption dynamics from a rural perspective for purposes of understanding shared perceptions by society. Using cross-sectional survey data from rural Eastern Cape Province of South Africa, the study estimated consumer awareness, consumption frequency, perceptions and determinants of consumption. Descriptive results reveal high level of awareness, consumption and positive perceptions with regards to ALVs. Regression estimates suggest possibility of increased consumption based on age, access to extension, availability on market, production and health perceptions, while education and poor taste may promote non-consumption. The revealed high level of awareness, consumption and positive perceptions presents an opportunity for the research, government, private sector and NGO community to reconsider the role ALVs can play as a household food security strategy especially in rural Africa.

#### Y3005

Preservation of Tomatoes

#### Ifueko Ukponmwan

Edo State institute of technology and Management Usen P.M.B 1104 Edo State, Nigeria

Abstract—This is a study that had the objective of preserving fresh tomatoes for two weeks using hot water treatment (88°C). There was a positive control which was freshly bought tomatoes and negative control which was fresh tomatoes kept in storage for two weeks without receiving any treatment. After the observation period, the samples were stewed and fed to fourteen taste panelists who judged them using the hedonic scale ratings from 9-1. The results from the ratings showed that negative control tomatoes scored 118 points while hot water treated tomatoes scored 119 points, the highest score of 122 points was scored by positive control. These scores from the rating indicated that the judges did not detect any difference in taste between the preserved tomatoes and the controls. Thus this study revealed that well preserved tomatoes can replace fresh tomatoes in stews, a trend that is yet to gain ground in this part of the globe.

#### SESSION-4 (ICCUE 2015) (7 presenters)

**Venue: Conference Room (Forum C, Ground Floor)** 

Session Chair: Prof. Jose Mar á del Campo Time: 13:30-15:15

E0013	The evaluation of steel frame structures with viscoelastic dampers		
	Ali Khoshraftar		
	Department of civil Engineering, Ahvaz Branch, Islamic Azad University, Ahvaz, Iran		
	Abstract—This paper is focused on the advantages of viscoelastic dampers (VED) to be used		
	as energy-absorbing devices in buildings. The properties of VED are briefly described. The		
	analytical studies of the model structures exhibiting the structural response reduction due to		
	these viscoelastic devices are presented. Computer simulation of the damped response of a		
	multi-storey steel frame structure shows significant reduction in floor displacement levels.		
E0015	Investigation and Performance Improvement of Hot Mix Asphalt Concrete Containing EAF		

Slag

N. Hosseinzadeh, M.J. Rezaei, and S.M. Hosseini.

Isfahan University of Technology, Iran

Abstract—Over one million tons of electric arc furnace slag (EAF) wastes per year is produced just in Mobarakeh Steel Company of Isfahan (MSC). According to large number of steel making factories all around the world, in recent years many researches have been done to minimize environmental impacts of these wastes by using them again in production of different materials like recycled structural concrete or hot mix asphalt concrete (HMAC). In this research EAF slag wastes which were produced by Mobarakeh Steel Company (MSC) in Iran, were applied to produce an environmental friendly HMAC. Marshall stability and flow tests, indirect tensile strength test and resistance to moisture damage test were performed on specimens. Results showed that by optimizing combined gradation of HMAC mixtures containing EAF slags as fine aggregate and crushed stone as medium and coarse aggregate a relatively moisture resistant mixture with significant increase in Marshall stability and indirect tensile strength can be gained preserving asphalt cement content in same ratio and flow test result almost the same.

E0018

Productivity improvement of the concrete construction work

S. Sasaki, Y. Uno, S. Hashimoto, and S. Date

Tokai Univ., Japan

Abstract—NATM (New Austrian Tunneling Method) is the typical construction method for the tunnel. Generally, inside of the tunnel shall be covered by lining concrete. The form work of the concrete will be removed when the concrete achieve enough strength. In other words, next step of construction cannot be conducted during this concrete curing period. Hence acceleration of curing of the concrete makes reduction of construction period possible. On the other hand, various special admixtures of which gives an effect of acceleration of cement hydration, were released to construction market, so far.

In this study, influence of dosing various admixtures into the concrete on an improvement of concrete properties was focused on to accelerate tunnel construction work. As a result, from the viewpoint of productivity improvement of the concrete construction, it was confirmed that the use of appropriate accelerator allowed both reduction of construction period and quality improvement.

E0021

Strength of Sieved Only Oil Palm Ash Foamed Concrete

H. Awang and M. Z. Al-mulali

Universiti Sains Malaysia

Abstract—Oil palm ash (OPA) is a waste material produced by countries having a blooming palm oil industry. Increasing palm oil production, the quantities of OPA continue to increase. However, its utilisation remains minimal and most of it is disposed of in landfills, causing environmental hazards. This study investigated the strength of foamed concrete incorporating sieved only OPA as a partial cement replacement. A foamed concrete mix of 1 part binder and 2 parts filler with a plastic density of 1450 kg/m³ has been used. Cement is replaced by OPA at replacement levels of 25 to 65% by weight of binder. Compressive, tensile splitting and flexural strengths have been investigated at the ages of 7, 14, 28 and 56 days. A foamed concrete mix with a 25% OPA content showed superior strengths than those exhibited by the

2015 APCBEES FLORENCE CONFERENCES control mix, hence, producing a greener and cheaper foamed concrete. E0027 An Iterative Method for Structural Health Monitoring in a Jacket Type Offshore Platform Based on Mode Reduction Alireza Mojtahedi, Farhad Hosseinlou University of Tabriz, Iran Abstract—Structural safety assessment is one of the most important items in extraction of energy resources by using offshore structures. Despite uncertainty in determining the most important parameters for the structure final design, it is usually complicated. Thereupon, damage detection techniques have received significant attention in order to assess the safety and reliability of offshore structures during their service life. This research represents the cross-model cross mode (CMCM) method in combination with the two-stage proprietary reduction (TPR) technique that is capable of detecting the damage to individual members by using results of the experiment on physical model of the offshore jacket platforms, when limited, spatially incomplete modal data is available. We evaluated selection procedure inactive degrees of freedom in process of the model reduction with a reasonable criterion by using the sensitivity analysis of system response under base excitation. Meanwhile, the finite element model updating based on the empirical model utilized to overcome the uncertainty in modeling. This performance indicates that the convergence rate and the compu-ting time of the proposed method are significantly superior to those of the prior iterative method with or without noise. E0022 Analysis of energy savings and visual comfort produced by the proper use of windows **I.** Acosta, M.A. Campano, J.F. Molina University of Seville. Department of Building Construction 1. School of Architecture, Spain Abstract—The aim of this research is to quantify the daylight autonomy and the useful daylight illuminance produced inside a room for different models of windows, and to conduct an analysis of the results obtained. The shape, size and position of the window are variable, as is the reflectance of the inner surfaces of the room. A total of 28 simulations are provided by the lighting simulation program DaySim 3.2. After trials it was concluded that the daylight autonomy is directly proportional to the glass surface in the back of the room, while its influence in the zone near the façade is negligible. However, the energy saving does not depend on the window shape. It is also concluded that the windows in the upper position allow higher luminance at the back of the room than those in centered locations. E0037 Analysis of elderly road user's characteristics at roundabout: a case study Rakesh Kumar, Radha J. Gonawana and Fatima S. Electricwala Civil Engineering Department, S.V. National Institute of Technology, India Abstract—At present, the design of urban road intersections considers only conventional road user's characteristics. As the population of elderly road users comprises about 8.2% of the total population, i.e. aged 60 years or above. As the elderly commuters population increases, their incompatible characteristics also play an important role in the road geometry performance analysis. The elderly road user's characteristics did not consider during the

planning and designing of the roundabout. Consequently 90% elderly road users involved in major or minor accident at intersection. In this study, revealed preference survey experiments and videography survey was conducted at roundabout for three days, and ARCADY-7 was

used for geometric analysis. First the discomfort level was determined using statistical analysis. The results revealed that elderly road user's as a driver, bicyclists and pedestrian are facing an unprecedented discomfort level while negotiating a roundabout. This study also helps in reducing the discomforts level and accident risk.

15:15-15:35 Coffee Break Ground Floor

#### SESSION-5 (JCCET&ICCUE 2015) (8 presenters)

**Venue: Conference Room (Forum B, First Floor)** 

Session Chair: Asso. Prof. Yuchen Sharon Sung

Time: 15:35-17:35

CE028 Operation Results of a Photovoltaic System Interconnected to the Low Voltage Grid in Bogot á

J. Aristiz ábal, J. Camacho, A. P érez, C. P áz and I. Dyner

Jorge Tadeo Lozano University, Colombia

Abstract—In this work we present the results of monitoring a building integrated photovoltaic (BIPV) system which was installed in Bogota, Colombia. The system is functioning in the building of the Economics Department at the Central University, and it is composed of a 900 W photovoltaic generator connected to the electrical grid through a 700 W inverter. A two-year monitoring process of the system and the meteorological variables allowed us to assess the energy performance, and correlate power production with solar radiation.

CE029 A parametric experimental investigation of the operating conditions of gravitational vortex hydropower (GVHP)

Christine Power, Aonghus McNabola and Paul Coughlan

Department of Civil, Structural and Environmental Engineering, Trinity College Dublin, Ireland

Abstract—Global energy consumption is growing considerably, raising such issues as increased energy-related greenhouse gas emissions, reduced security of supply, and growing fuel costs. Renewable resources, such as hydropower, offer an alternative energy source to meet the growing demand. Small hydropower (SHP) has been a major focus of hydropower research in recent years, as many of the large scale hydroelectric opportunities around the world have already been exploited. In particular, low head SHP is gaining interest as traditional turbines, such as the Kaplan and Pelton turbines, are typically limited to heads greater than 3m.

Gravitational vortex hydropower (GVHP) is one such low head hydropower solution. GVHP exploits the energy available in a vortex flow, enabling hydropower generation at heads as low as 0.7m. A vertical axis turbine is placed in the centre of a vortex flow and rotates with the flow, thus generating mechanical energy.

This paper describes a parametric experimental investigation of the operating conditions of GVHP. Various flow rates, inlet conditions, blade sizes and blade numbers were tested and the turbine rotational speed, vortex height and applied resistance force were recorded for each setting. The power input, power output and efficiency were then calculated and compared for the various settings. It was found that the turbine efficiency increases with blade size and blade number for the blade configurations tested. Maximum power outputs were found for the largest flow rate tested and when there was a considerable resistance force applied to the turbine. Finally, of three inlet heights tested, a height of 25 cm above the tank base (35% of the overall tank height) was found to be optimum for turbine performance. These results have implications both for future research and for practice, with energy generating applications in low head rivers and in wastewater networks.

CE030 | Performance Analysis of Thermal Energy Storage Prototype in Thailand

R. Boonsu, S. Sukchai, S. Hemavibool and S. Somkun

School of Renewable Energy Technology, Naresaun University, Phitsanulok, 65000 Thailand

Abstract—The experiment was performed on thermal energy storage prototype in Thailand. Concrete was used as the solid media sensible heat material because it is locally available, is easy to handle and is low cost. Water/Steam was used for HTF. The concrete storage prototype was composed of concrete with embedded pipes. The embedded pipes were used transporting and distributing the heat transfer medium while sustaining the pressure. The concrete stores the thermal energy as sensible heat. The heat exchanger was composed of 16 tubes of high temperature steel with an inner diameter of 12 mm and wall thickness of 7 mm. The tubes were arranged in a 4 x 4 square arrangement with a separation of 82 mm. A storage prototype was 0.5 x 0.5 x 4 m. The charging water/steam temperature was maintained at 180°C with the flow rates of 0.009, 0.0012 and 0.014 kg/s whereas the inlet temperature of the discharge water/steam was maintained at 110°C. Thermal performance of Thermal Energy Storage such as Charging and discharging times, radial thermal distribution, energy storage capacity and energy efficiency have been evaluated. For the charging/discharging experiment, it was found that the increase or decrease in storage temperature depends on the HTF temperature, flow rates, and initial temperature. The results showed that increasing the HTF flow rate increases the overall heat transfer coefficient, thereby enabling faster exchange of heat and reduces charging time. The results from this research can be a guideline for thermal storage system design for Solar Thermal Power Plant in Thailand.

CE031 Have Technology Specific Measures for the UK Electricity Market Reform Gone Far Enough?

#### Francine Baker

Wolfson College Oxford, the Open University, UK and Oxford Brookes University

Abstract—The United Kingdom Government recently published a package of measures which would support investment in low-carbon technologies in the years up to 2020.

It has also taken account of the highly uncertain investment conditions relating to the period beyond 2020, which threaten to undermine the 2014 Electricity Market Reform measures and deliver bad value. The CFD scheme under the Energy Act 2013 should provide a stable revenue

level which should, in turn, reduce investment risks and financing costs, and so drive innovation and development of low-carbon technologies. The scheme can also cap the support costs for consumers when electricity prices are high. Concerns about the impact of CFD allocation policies on the solar industry can be addressed. This paper indicates that there is a clear benefit in committing to invest in low-carbon generation technologies to 2020, and beyond to the 2030s. The Government should state clearly that it intends to support investments in low-carbon technologies through the 2020s.

CE033

Integrated Sensor Wireless System for Alternative Energy Applications

Maher Rizkalla, Mohamed El-Sharkawy and Penghua Sun

Department of Electrical and Computer Engineering, Purdue School of Engineering and Technology, Indiana University Purdue University Indianapolis

Abstract—These Wind turbines convert mechanical energy into electrical energy for storage and consumption. Pressure transducers are important in reflecting pressures within the hydraulic cylinders; they can provide continuous and reliable operation that enhances the reliability and efficiency of the overall system. Monitoring high temperature fluctuation will be necessary for the resolution and efficiency of the system. An integrated sensor system should be important for monitoring the tower vibration for bending, crack formation, and wave vibration.

Smart nanotechnology materials have been recently utilized in sensing applications. Carbon nanotube (CNT) based SoC sensor systems have potential applications in various fields, including medical, energy, consumer electronics, computers, and HVAC (heating, ventilation, and air conditioning), among others.

In this study, a nanotechnology multisensory system was designed and simulated using Labview Software. More emphasis are given to both pressure and temperature sensors that serve as transducers for the power mills. The mathematical models were developed for sensing three physical quantities: temperature, gas, and pressure. Four CNT groups on a chip (two for gas sensor, one for temperature, and a 4th one for pressure) were utilized in order to perform sensing multiple parameters. The proposed fabrication processes and the materials used were chosen to avoid the interference of these parameters on each other when detecting one of them. The simulation results were translated into analog voltage from Labview software, transmitted via Bluetooth network, and received on desktop computers within the vicinity of the sensor system. The mathematical models and simulation results showed as high as 95% accuracy in measuring temperature, and the 5% error was caused from the interference of the surrounding gas. Within 7% change in pressure was impacted by both temperature and gas interference.

E0019

Municipal solid waste generation trend in the Metropolitan cities of the Muslim world during the months of religious rituals (case study: Mashhad Metropolitan City, Iran)

Farzaneh Fakheri Raof, Abdolkhalegh vadian

Department of Environmental Science, Ahvaz Branch, Islamic Azad University, Ahvaz, Iran

Abstract—One of the most important environmental issues in developing countries is municipal solid waste management. In this context, knowledge of the quantity and composition of solid waste provides the basic information for the optimal management of solid waste. Many studies have been conducted to investigate the impact of economic, social and cultural factors on generation trend of solid waste; however, few of these have addressed the role of religion in the matter. The present study is a field investigation on generation trend of solid waste in Mashhad, a metropolitan city in northeastern Iran. Accordingly, the religious

rituals, quantity and composition of municipal solid waste were considered as independent and dependent variables, respectively. For this purpose, the quantity of the solid waste was initially determined. Afterwards, they were classified into 12 groups using the relevant standard methods. The results showed that the production rate of the municipal solid waste was 1,507tons per day. Composing 65.2% of the whole; the organic materials constitute the largest share of the total municipal solid waste in Mashhad. The obtained results also revealed that there is a positive relationship between waste generation and the months of religious ceremonies so that the greatest amount of waste generated in the city was reported from Ramadan (as a religious month) in a way that it was significantly different from other months.

E0020

Exploring the Dimensions of Pro-Environmental Practices in Construction Firms **Nor'Aini Yusof**, Mohammad Iranmanesh and Aminu Garba Waziri Universiti Sains Malaysia

Abstract—The potential of the construction industry to contribute toward environmental sustainability placed increased pressure on the need for pro-environmental practices (PEP) in the sector. Research has indicated that environmental quality is associated with human behavior; thus, PEP in construction firms is imperative. Studies on the PEP of construction firms are limited. This study aims to explore the PEP dimensions in construction firms, specifically among architectural, engineering, and contracting (AEC) firms. Questionnaires were distributed to AEC firms in Penang, Malaysia; 375 useable responses were obtained. After data analysis, four factors emerged as the PEP dimensions of firms. These factors are energy efficiency, paper recycling, office waste recycling, and involvement in pro-environmental efforts. The findings provide valuable understanding on PEP that is available in construction firms.

E0028

Transport of Toxic Elements through Leaching in and Around Ash Disposal Sites Shivam Kapoor and **R A Christian** SVNIT, India

Abstract—In India coal-based thermal power plants have been a major source of power generation, where 75% of the total power obtained is from coal-based thermal power plants. These plants produce enormous quantity of fly ash. Many of the elements contained in ash are possessing health or environmental risks. In many applications, fly ash is exposed to natural fluids, such as acid rain and groundwater. A portion of fly ash produces by these plants is ultimately dumped in the ash dykes in the form of slurry. This slurry contain various metal ions out of which the ions of concern are Hg, Cr, As, Ni, Cd, Cu, Pb, Zn, and B which may percolate down & pollute ground water.

This study investigates the leachate potential of heavy metal for fly ash of one of the Super Thermal Power Plant in India. It also studies the impact of leaching of toxics from ash dumps to water bodies within an area falling in 10 Km radii of ash dumps. The results shows that 5-30% toxic elements (As, Cu, Pb, Mg, Al) are leached in test and around 10% of total Cd was solubilized in the acidic pH range (3 to 5). This study also observed that some heavy metals, trace elements and fluoride in ground water and surface water are present in such quantity which is not desirable in drinking water for direct use as per WHO standards. Thus the study concludes that fly ash has moderate polluting effect on ground water in area which comes under radii of 4 Km where proper treatment of water is required before utilizing it as a drinking purpose.

#### **SESSION–6 (ICCUE 2015) (9 presenters)**

**Venue: Conference Room (Forum C, Ground Floor)** 

Session Chair: I. Acosta Time: 15:35-17:50

E0039 Energy Efficient Landscape for Thermal Comfort in Buildings and Built-Up Areas.

Prof. Dr. Srikonda Ramesh

School of Planning and Architecture, India.

Abstract—Energy and landscape are critical constituents in the physical development of built environment. Energy conservation and landscape quality have been widely acknowledged as important parameters in design of building, surroundings and built-up Areas. In design process the landscape is one of the vital parameters of functional, aesthetical and environmental considerations. It is essential to understand its contribution towards energy and environment to enable the designer to utilize its potential effectively in an integrated design approach and thought process with due consideration to climate change. It has a potentiality to dilute the greenhouse effect, absorb the dust particulates, sound and to bring strong impact on micro climate and sol-air temperature. This paper deals precisely, how the energy efficient landscape parameters can be assessed to integrate in the built up spaces so as to conserve the energy. The investigation has been carried to understand the energy conservation potential of ground for space conditioning for earth coupled buildings, soft and hard surfaces. The sol-air temperature of different surfaces and its influence on the micro climate around built spaces; thermal behavior of different vernacular / traditional materials have been analyzed with reference to diffusivity, decrimental factor, time lag and found that red sand stone pavers had shown better variation as compared to concrete, lime concrete and brick pavers. It is also emphasized the impotence of shading considerations and vegetation to reduce the heat island effect.

E3006

Hydrogeochemaical Quality of Groundwater in Vadodara District, Gujarat, India

S. M. Shah, N. J. Mistry

Sardar Vallabhbhai National Institute of Technology, India

Abstract—An attempt has been made in this present work to determine the groundwater quality in parts of Vadodara district, Gujarat, India. Totally, 45 groundwater samples were collected from open and dug well, covering pre monsoon and post monsoon season and analyzed for physicochemical parameters (pH, EC, TDS, TH, Ca, Mg, Na, K and Cl, SO<sub>4</sub>, HCO<sub>3</sub>) in order to understand the hydrochemistry of the water. The results of analysis were interpreted with geology and geomorphology of the area and also by various geochemical diagrams such as Piper trilinear plot and USSL classification diagram. Suitability of the groundwater for irrigation purpose was verified using Indian Standards. The results indicate that 58.18 % of samples for pre monsoon and 63% of samples for post Monsoon are suitable

for irrigation purpose as per Sodium Adsorption Ratio. Further, the results points out that most of the well water falls in type indicating influence of Na>Ca>Mg>K cations and Cl>SO<sub>4</sub>>HCO<sub>3</sub> anion in these wells which is confirmed by Pipper's Diagram. According to USSL classification, water quality of the samples belong to C4-S4, C3-S1 classes water are also found in the area which moderately suitable for irrigation.

E3007

Fuzzy Rule Based System Approach For the prediction of Respiratory Abnormalities in Solid Waste Workers

Namrata Jariwala and R. A. Christian

Sardar Vallabhbhai National Institute of Technology, India

Abstract—The prediction of diseases is a complex process, as it is influenced by number of factors. Medical science uses the symptoms, laboratory test and medical history of the person as diagnosis tools for prediction of diseases. In this paper, fuzzy rule-based system approach has been proposed to determine respiratory abnormalities among solid waste workers. For the prediction of diseases, studies of many biochemical parameters of healthy people with different age, BMI and habit data are required. Medical science considers the criteria of odds ratio for the study of disease occurrence pattern in which comparison is made with exposed and non-exposed group. In this paper, new proposed methodology is discussed which can determine person risk to suffer from respiratory diseases. In Fuzzy rule-based system approach, available information from medical experts is used to generate the person risk in 0 to 1 scale without any medical diagnosis or laboratory test. The determine risk value can be used to modify the factor for the occurrence of diseases in individual and preventive steps can be considered for curing of diseases before any medical diagnosis or test.

E0029

City-to-city cooperation in environmental infrastructure installation

Injae Yu, Yoojung Jo, Saehyung Sohn, Donyun Kim

Sung Kyun Kwan University, Korea

Abstract—Nowadays, it is estimated that 70% of cities worldwide are engaged in various forms of city-to-city cooperation. Successful cities are able to establish a connection with the creative environment by different inter-city cooperatives and convergence. The construction of aversive facilities in the city which involves social issues such as the Nimby has found a solution in the cooperation between neighboring cities. In this study, the implications of city-to-city cooperation for the installation of aversive environmental infrastructure will be drawn out by case analysis of Korea. The focus of analysis is that the methods of city-to-city cooperation, the result of the cooperation and its effect. City-to-city cooperation regarding environmental infrastructure is expressed in the form of "sharing" facilities. Finally, in order to build a future of sustainable cities, it is wiser to focus on win-win development instead of focusing on each individual city's growth. Also, building the foundational infrastructure necessary for city development requires a change in public perception.

E0030

Waste management in the age of alternative energy

Yoojung Jo, Injae Yu, Saehyung Sohn, Donyun Kim

Sung Kyun Kwan University, Korea

Abstract—It is crucial to minimize the amount of urban waste causing many environmental problems. However, for getting rid of waste generated in the city life completely is impossible, the effort to utilize such waste as energy sources is increasing through the proper

management. Despite the advantages and importance of waste management, Nimby makes it difficult to locate the facility in urban environment. The aim of this study is to draw a suitable direction for Korea's waste management to convert waste into energy. For this, investigated and analyzed were the international cases related to energy recovery from waste methods. As a result, there are common features: production of energy to replace fossil energy, high profitability, energy independence and the resolving of Nimby. Although local conditions and the situation in the foreign country may be different, perceptions and the role of principals who practice it need benchmarking for its own country's situation.

E0032 Assessment of Water Quality Index for the groundwater in and nearby industrial area of Surat, India

**Bhaven N. Tandel**, Parth Tandel

S. V. National Institute of Technology, Surat, India

Abstract—The water quality index is a single number that expresses the quality of water by integrating the water quality variables. Its purpose is to provide a simple and concise method for expressing the water quality for different usage

The present work deals with the monitoring of variation of seasonal water quality index of some strategically selected ground water sources. The WQI improves the comprehension of general water quality issues, communicates water quality status and illustrates the need for and the effectiveness of protective practices.

The present work is aimed at assessing the water quality index (WQI) for the ground water of industrial area. The groundwater samples of all the 8 sampling location were collected and subjected for a comprehensive physicochemical analysis. For calculating the WQI, 14 parameters are considered viz., pH, turbidity, total hardness, calcium, magnesium, chlorides, nitrates, sulphates, total dissolved solids, iron, fluoride, alkalinity, total solids, and total dissolved solids.

The results analyzed by WQI method shows that the ground water quality was poor and unfit for drinking in some of the areas, scoring a water quality index greater than 100. Also, seasonal variation in quality of ground water was analyzed. Based on the analysis and results (WQI values poor), for drinking purpose, it is recommended to use water only after boiling and filtering or by Reverse Osmosis treatment. Also, for the industrial use of water on large scale, as the TDS and hardness values are very high, it is suggested to install appropriate treatment plant in the industrial area.

E3004 Areas of Logistics Activity. Evolution and Tendencies. Criteria and Parameters of Design to Implementation and Organization.

Jose Romero Postiguillo, Jose Mar á del Campo and Juan A. Santamera.

Technical University of Madrid (UPM), Spain

Abstract—In the past 50 years has been developed a new organization of international markets, which directly affects the systems of procurement, production and distribution, in other words, to the supply chain. In this new configuration of trade, "Logistic Network" acquires a paramount value, positioning in the preferential step in the competitiveness of products and companies. Logistics platforms are an item that has been gaining importance, which not only act as support on the road, but provide value-added services, and configured as basic points of the supply chain. That is why this research is performed in order to obtain a rating for Spain and design parameters.

- 25 -

## E3005 A New Land Equipment: Commercial Parks: Criteria And Parameters Of Design. Analysis Of Spain's Experience.

Juan Carlos Garc á Saugar, **Jose Mar á del Campo** and Juan A. Santamera.

Technical University of Madrid (UPM), Spain

Abstract—Industrial revolution, in all its stages, marked a change that fully affected commercial activity in the city, gradually producing a radical spacing between places of production of manufactured goods and exchange ones. The latter are specializing, from the first trades groups in small markets, to one of the most sophisticated forms of retail spaces at present, the Commercial Park, which in Spain is becoming increasingly important. Based on that currently, there are no conclusive studies on how to approach these new spaces. It is for this reason that this research is performed, to obtain a definition of the term and sizing parameters.

#### E4002 Visual perception in architecture and cinema, similarities and differences

#### Hassan Ebrahimi Asl and Parinaz Mizban

Department of Architecture Management, College of Architecture, Najafabad Branch, Islamic Azad University, Iran

Abstract—Architecture and cinema, the first one is a kind of art related to beginning of life and human being in this globe and the latter is the product of modern era and 20th century in addition they are the significant branches of art that virtual communication plays an important role on them in perception and transmission concepts and contents. Acquaintance with dimensions of this communication lead to exploring new ways in coherence between these two fields.

Due to lack of time and turning human's perception into virtual in nowadays life, this study can be useful in facilitating connection between human and his environment. Our aim in this paper, first is exploring and clarifying visual communication in every field then finding the common factors which can be transmit between these two fields. At the end we reach this point that architecture and cinema have much in common in terms of visual perception and transmission, expanding this connection can lead to preparing new thoughts, ideas and new methods in visual communications. Consolidating these two majors in terms of visual communications can start new areas in this field.

19.20	Dinner
18:30	Convivio Restaurant, Ground Floor

## **Conference Venue-AC Hotel Firenze**

Email: www.hotelacfirenze.com



Address: Via Luciano Bausi, 5 Florence Florence 50144 Italy



Basso and the historical Firenze shopping district.

AC Hotel Firenze is located near Porta al Prato Station and Leopolda Station Exhibition Centre. Easy access to Santa Maria Novella Station, Peretola airport and historic centre of Florence allows you to live the art experience of a lifetime. Michelangelo's David, Giotto's Tower, Uffizi, Piazza della. The hotel is located just 10 km from the Airport and 500 meters from the nearest bus stop. Very close to the Fortalezza da

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Email: acfirenze@ac-hotels.com

Tel: +39 055 3120111



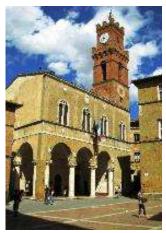
## **One Day Tour**

Departure time: 8:30, March 21st, 2015, in the morning at the hotel lobby

Time for being back: **20:00** in the evening



## San Gimignano

















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## **APCBEES FORTHCOMING CONFERENCES**

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

	CONFERENCE INFORMATION	PUBLICATION			
	, 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					

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)			
2015 International Conference on Advances in Environment Research http://www.icaer.org/	WIT Transactions on the Built Environment (ISSN: 1743-3509)			
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, F	rance			
2015 4th International Conference on Geological and Environmental Sciences http://www.icges.org/	International Journal of Geological Engineering (IJGE)			
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)			
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			
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)			
2015 2nd International Conference on Biomedical and Bioinformatics Engineering http://www.icbbe.com/	Journal of Medical and Bioengineering (JOMB, ISSN: 2301-3796)			
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				
2015 3rd International Conference on Renewable Energy and Environment (ICREE 2015)	International Journal of Smart Grid and Clean Energy (IJSGCE, ISSN: 2315-4462)			
2015 3rd International Conference on Biological and Medical Sciences (ICBMS 2015)	International Journal of Pharma Medicine and Biological Sciences (IJPMBS, ISSN: 2278-5221)			
	Technology http://www.icfnt.org/  2015 International Conference on Advances in Environment Research http://www.icaer.org/  2015 2nd International Conference on Advances in Biology and Chemistry http://www.icabc.org/  Aug. 05-06, 2015, Paris, F  2015 4th International Conference on Geological and Environmental Sciences http://www.icges.org/  2015 5th International Conference on Environmental and Agriculture Engineering http://www.iceae.org/  2015 6th International Conference on Chemistry and Chemical Engineering http://www.iccce.org/  Aug. 27-28, 2015, Hong  2015 2nd International Conference on Substantial Environmental Engineering http://www.icsee.org/  2015 2nd International Conference on Biomedical and Bioinformatics Engineering http://www.icbbe.com/  2015 6th International Conference on Chemical Engineering and Applications http://www.cbbes.org/ccea/  Sep. 05-06, 2015, Shangha  2015 3rd International Conference on Renewable Energy and Environment (ICREE 2015)  2015 3rd International Conference on Biological and Medical			

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, Milan, Italy							
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. 11-12, 2015, New York, USA							
ICSEA 2015	2015 3rd International Conference on Sustainable Environment and Agriculture (ICSEA 2015) http://www.icsea.org/	Journal of Environmental Science and Development (IJESD, ISSN:2010-0264)/ Journal of Advanced Agricultural Technologies (JOAAT ISSN: 2301-3737)					
ICFN 2015	2015 International Conference on Food and Nutrition (ICFN 2015) http://www.icfn.org/	International Journal of Food Engineering (IJFE)					
ICBEC 2015	2015 6th International Conference on Biology, Environment and Chemistry (ICBEC 2015) http://www.icbec.org/	(IPCBEE, ISSN: 2010-4618)					
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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Note