2017 8th International Conference on Agriculture and Animal Science (ICAAS 2017)

2017 5th International Conference on Sustainable Environment and Agriculture (ICSEA 2017)

October 28-30, 2017

Crowne Plaza Los Angeles International Airport Hotel

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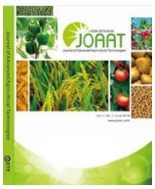
2017 HKCBEES LOS ANGELES Conference Introductions

Welcome to CBEES 2017 conference in Los Angeles, USA. The objective of the USA conference is to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in Sustainable Environment and Agriculture, Agriculture and Animal Science.

2017 5th International Conference on Sustainable Environment and Agriculture (ICSEA 2017)

Papers will be published in one of the following journals:

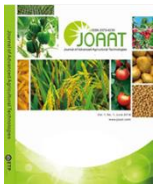
Journal of Environmental Science and Development (IJESD, ISSN:2010-0264), which is indexed by the Engineering & Technology Digital Library, and indexed by WorldCat, Google Scholar, Cross ref, ProQuest , CABI, et al;



Journal of Advanced Agricultural Technologies (JOAAT ISSN: 2301-3737), which will be indexed by Ulrich's Periodicals Directory, Google Scholar, Engineering & Technology Digital Library, Crossref and Electronic Journals Digital Library.

Conference website and email: http://www.icsea.org/; icsea@cbees.net

2017 8th International Conference on Agriculture and Animal Science (ICAAS 2017)



Papers will be published in one of the following journals:

Journal of Advanced Agricultural Technologies (JOAAT ISSN: 2301-3737), which is indexed by Ulrich's Periodicals Directory, Google Scholar, Engineering & Technology Digital Library, Crossref and Electronic Journals Digital Library, et al;

Conference website and email: http://www.icaas.net/index.html; caas@cbees.org

Presentation Instructions

Instructions for Oral Presentations

Devices Provided by the Conference Organizer:

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

Materials Provided by the Presenters:

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

Duration of each Presentation (Tentatively):

Regular Oral Presentation: about **12** Minutes of Presentation and **3** Minutes of Question and Answer
Keynote Speech: about **35** Minutes of Presentation and **5** Minutes of Question and Answer
Plenary Speech: about **35** Minutes of Presentation and **5** Minutes of Question and Answer

Instructions for Poster Presentation

Materials Provided by the Conference Organizer:

The place to put poster

Materials Provided by the Presenters:

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

Best Presentation Award

One Best Oral Presentation will be selected from each presentation session, and the Certificate for Best Oral Presentation will be awarded at the end of each session on October 29, 2017.

Dress code

Please wear formal clothes or national representative of clothing.

Keynote Speaker Introductions

Keynote Speaker I

Prof. Pedro Joaqu ń Guti érrez-Yurrita

Instituto Politecnico Nacional, Mexico

Education

Jul 2007 –at present University of Alicante, Spain CANDIDATE TO PH.D. ON ENVIRONMENTAL LAW, Alicante, Spain

Jan 2006 – Jul 2007 University of Alicante, Spain MASTER IN ENVIRONMENTAL LAW AND SUSTAINABILITY, ENVIRONMENTAL LAW, Alicante, Spain

Jan 1994 – Jul 1997 Autonomous University of Madrid, Spain PH. D., BIOLOGICAL SCIENCES, Madrid, Spain

Jun 1990 – Sep 1993 National Autonomous University of Mexico MASTER IN SCIENCES, MANAGEMENT OF NATURAL RESOURCES, Mexico City, Mexico

Jun 1986 – Jun 1990 National Autonomous University of Mexico COLLEGE / UNDERGRADUATE, BIOLOGY, Mexico City, Mexico

Research Experience

Jan 2015 – May 2015 Visiting research-professor University of Alicante, Department of State Legal Studies Alicante, Spain

Jun 2009 –at present Full time professor National Polytechnic Institute, Interdisciplinary Centre for Research and Studies on Environment and Development, M éxico, D. F.

Jan 1997 – Dec 1997 Post-doctorate research Autonomous University of Madrid, Department of Ecology, Madrid, Spain

Project: Ecological impact and management of Red swamp crayfish in Tenerife (Canary Island, Spain)

Jan 1998 – May 2007 Full time professor Autonomous University of Queretaro, Faculty of Natural Sciences, Santiago de Quer étaro, Mexico

Topic: “Anthromes –the future of the Landscape Ecology?”

Prof. Pedro Joaqu ń Guti érrez-Yurrita

Instituto Politecnico Nacional, Mexico

***Abstract*—**RE-Connecting people to nature - in the city and on land, from the poles to the equator, said the theme of the World Environment Day, organized by United Nations through the United Nations Environment Program in 2017. The motto is largely a product of Attenborough's thinking: "People need only do the least to connect with nature and once it happens, their passion is enlightened forever." The thinking of this disseminator of the natural sciences is the product of years of study in human ecology along with large doses of biology and a slight anthropological approach.

Anthrome, is a grammatical contraction that forms a fusion neologism or as the English would say, a portmanteau. Anthrome fuses Anthropogenic with Biome; Anthrome means, therefore, a humanized environment. The anthromes range from densely populated urban centers to pristine natural lands, going through the whole range of agricultural scenarios and natural areas with a certain degree of construction for various human activities. A antrhome, at first glance, might seem synonymous with landscape, considering that the landscape is a territory as perceived by the population.

My first question is: if there is a concept of landscape for more than a century, the environmental sciences for over 50 years and the landscape sciences for the past 30 years, do we need to coin a new term? I assume the answer is yes; Then, under this assumption, the next question is: what conceptual, methodological, philosophical or political novelty does this portmanteau bring? The answer to this question is the glossing of the present work, which provides a framework for the commemoration 5th International Conference on Sustainable Environment and Agriculture (ICSEA 2017). The conclusion of the work leads us to reflect on whether Anthrome as a new paradigm that studies the relation between humanity and nature, synthesizes what our connection with nature today means and if it will lead us to a sustainable agriculture.

Keynote Speaker II

Prof. Khaled M. Bali

University of California, San Diego, USA

Prof. K. M. Bali is currently the Irrigation Water Management Specialist at the University of California Kearney Agricultural Research and Extension Center in Parlier, CA.. He received his PhD in soil physics from UC Davis (1992), MS degree in irrigation and drainage from UC Davis (1987), and BS degree in soil and irrigation from the University of Jordan (1984). He is responsible for designing, implementing, and conducting educational and applied research programs in irrigation, drainage, water management, water quality, soil salinity, waste management, reuse of wastewater for irrigation and nonpoint source pollution control practices. He was a Fulbright Scholar at the University of Jordan (2006-07).

Topic: “Irrigation Practices in California and Potential Measures to Improve Efficiency”

Prof. Khaled M. Bali

University of California, San Diego, USA

Abstract—California agriculture is a $54 Billion industry that relies heavily on the State’s developed water resources for its economic viability and environmental sustainability. With the increasing water scarcity, competition for freshwater supplies among sectors, and impacts of climate change on irrigated agriculture are projected to intensify in the near future. In this context, improving agricultural water management through greater resource-efficiency is key to sustaining the State’s historically phenomenal agricultural production. We present here a review of major irrigation systems in California including a variety of pressurized and surface irrigation systems and discuss practical methods to improve irrigation efficiency. Pressurized irrigation systems are commonly used on high value crops such as orchards, vines, and various vegetable crops while surface irrigation systems are mostly used on field crops. We examine the various losses associated with various systems and quantify the potential saving associated with various methods to improve efficiency.

Plenary Speaker I

Dr. Daniele Zaccaria

College of Agricultural and Environmental Sciences at UC Davis, USA

Dr. Daniele Zaccaria is Agricultural Water Management Specialist in Cooperative Extension at the Department of Land, Air and Water Resources of University of California, Davis.

Dr. Zaccaria completed his Masters of Science in Land and Water Resources Management at the International Center for Advanced Mediterranean Agronomic Studies – Mediterranean Agronomic Institute of Bari (CIHEAM-MAI Bari) in 1998, and a Ph.D. in Civil and Environmental Engineering – Irrigation Engineering Division at Utah State University in 2011.

Before joining the UC Davis faculty in 2013, he served as Scientific Officer for the International Center for Advanced Mediterranean Agronomic Studies (CIHEAM-MAI Bari) since 1998. During that period he has been actively involved in research and in the formulation and execution of international cooperation projects in several Mediterranean, Middle-Eastern, North-African and central Asian countries with focus on water resources management and irrigation.

His expertise and current work focus on irrigation management under limited water supply, as well as on design, performance analysis, and modernization of irrigation systems, across on-farm, district and scheme scales, and on developing viable agricultural water management solutions to improve resource efficiency in irrigated agriculture

Topic: "Overview on Irrigated Agriculture and Main Agriculture Water Management Challenges in California"

Dr. Daniele Zaccaria

College of Agricultural and Environmental Sciences at UC Davis, USA

Abstract—Presently, California agriculture consists of about 14 million acres of pasture and rangeland and 9.5 million acres of irrigated croplands, operated by 77,500 farms and ranches, which require approximately 34 million acre-feet of fresh water per year, corresponding to nearly 40% of the total state-wide beneficial water use.

The prospect of droughts occurring with higher frequency and severity, and of increasing competition for water from urban and environmental demands, require coordinated efforts to target some major agricultural water management challenges.

This talk will highlight current statistics and trends, and the main water-related implications in irrigated agriculture in California. It will also provide an overview on some controversial aspects of water management related to water scarcity and environmental externalities.

Finally, some applied-research projects aiming at investigating actual crop water use will be briefly presented within the context of resource-efficiency of irrigated agriculture.

Brief Schedule for Conference

<table>
<tr><td>Day 1</td><td colspan="2">October 28, 2017 (Saturday) 10:00~17:00
Venue: Lobby
Participants Onsite Registration & Conference Materials Collection</td></tr>
<tr><td rowspan="11">Day 2</td><td colspan="2">October 29, 2017 (Sunday) 8:50~18:40
Venue: Napa/Sonoma Room
Arrival Registration, Keynote Speech, Plenary Speech, and Conference Presentation</td></tr>
<tr><td colspan="2">Morning Conference</td></tr>
<tr><td colspan="2">Opening Remarks 8:50~9:00
Prof. Khaled M. Bali, University of California, San Diego, USA
Keynote Speech I 9:00~9:40
Topic: “Anthromes –the future of the Landscape Ecology?”
(Prof. Pedro Joaqu ń Guti érrez-Yurrita, Instituto Politecnico Nacional, Mexico)
Keynote Speech II 9:40~10:20
Topic: “Irrigation Practices in California and Potential Measures to Improve Efficiency”
(Prof. Khaled M. Bali, University of California, San Diego, USA)</td></tr>
<tr><td colspan="2">Coffee Break & Group Photo Taking 10:20~10:40</td></tr>
<tr><td colspan="2">Plenary Speech I 10:40~11:20
Topic: “Overview on Irrigated Agriculture and Main Agriculture Water Management Challenges in California”
(Dr. Daniele Zaccaria, College of Agricultural and Environmental Sciences at UC Davis, USA)</td></tr>
<tr><td colspan="2">Session 1 11:20~12:50
6 presentations-Topic: “Agricultural Production and Food Science”</td></tr>
<tr><td colspan="2">Lunch 12:50~13:50</td></tr>
<tr><td colspan="2">Afternoon Conference</td></tr>
<tr><td>Session 2 13:50~15:50
Venue: Napa Room
8 presentations-Topic: “Agricultural Economy and Management”</td><td>Session 3 13:50~15:50
Venue: Sonoma Room
8 presentations-Topic: “Microbiology and Biotechnology”</td></tr>
<tr><td colspan="2">Coffee Break 15:50~16:10</td></tr>
</table>

<table>
<tr><td rowspan="3"></td><td>Session 4 16:10~18:25
Venue: Napa Room
9 presentations-Topic: “Animal Science and Botany”</td><td>Session 5 16:10~18:40
Venue: Sonoma Room
10 presentations-Topic: “Resources and Environmental Science”</td></tr>
<tr><td colspan="2">Poster session Venue: Napa/Sonoma Room</td></tr>
<tr><td colspan="2">Dinner 19:00</td></tr>
<tr><td>Day 3</td><td colspan="2">One Day Visit
8:00 to 18:00</td></tr>
</table>

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

Detailed Schedule for Conference

Afternoon, October 29, 2017 (Sunday)

<table>
<tr><td>8:50~9:00</td><td colspan="2">Opening Remarks
Prof. Khaled M. Bali,
University of California, San Diego, USA</td></tr>
<tr><td>9:00~9:40</td><td colspan="2">Keynote Speech I
Prof. Pedro Joaqu ń Guti érrez-Yurrita
Instituto Politecnico Nacional, Mexico</td></tr>
<tr><td>9:40~10:20</td><td colspan="2">Keynote Speech II
Prof. Khaled M. Bali,
University of California, San Diego, USA</td></tr>
<tr><td>10:20~10:40</td><td colspan="2">Coffee Break & Group Photo Taking</td></tr>
<tr><td>10:40~11:20</td><td colspan="2">Plenary Speech I
Dr. Daniele Zaccaria
College of Agricultural and Environmental Sciences at UC Davis, USA</td></tr>
<tr><td>11:20~12:50</td><td colspan="2">Session 1
6 presentations-Topic: “Agricultural Production and Food Science”</td></tr>
<tr><td>12:50~13:50</td><td colspan="2">Lunch</td></tr>
<tr><td colspan="2">Session 2 13:50~15:50
Venue: Napa Room
8 presentations-Topic: “Agricultural Economy and Management”</td><td>Session 3 13:50~15:50
Venue: Sonoma Room
8 presentations-Topic: “Microbiology and Biotechnology”</td></tr>
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9 presentations-Topic: “Animal Science and Botany”</td><td>Session 5 16:10~18:40
Venue: Sonoma Room
10 presentations-Topic: “Resources and Environmental Science”</td></tr>
<tr><td colspan="3">Dinner 19:00</td></tr>
</table>

Note: (1) The registration can also be done at any time during the conference.

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

(3) One Best Oral Presentation will be selected from each oral presentation session, and the Certificate for Best Oral Presentation will be awarded at the end of each session on October 29, 2017.

Session 1

Tips: The schedule for each presentation is for reference only. In order not to miss your presentation, we strongly suggest that you attend the whole session.

Morning, October 29, 2017 (Sunday)

Time: 11:20~12:50

Venue: Napa/Sonoma Room

Session 1: 6 presentations- Topic: "Agricultural Production and Food Science"

Session Chair: Prof. Khaled M. Bali

K0010 Presentation 1 (11:20~11:35)

Analysis of Climate Risk Level on Productivity Soybean (Glycine max L.) trough the Use of Cropsyst

Aminah, Abdullah and Muliaty
Universitas Muslim Indonesia, Indonesia

Abstract- The aims of this research is to predict the planting time and the potential of soybean yield in Pangkep Regency as one of South Sulawesi's soybean production centers in extreme climate conditions using Cropsyst model. This research consist of several steps: (1) Step of validation, conducted to validate calibrated model (calibrated in Maros regency) with condition in Pangkep regency, (2) Step of model application, and (3) Step of strategy determination. The result of validation of soybean plant production in Pangkep regency shows the correlation between observation of production data and simulation of production data namely 0,933. It means that the model is suitable to predict the appropriate production for soybean planting at the research locations. RRMSE calculation result (Relative Root Mean Square Error) of the production data is 2.501%. Simulation results on climate risk analysis show that the potential production in the normal year is higher than El Nino extreme year while the production potential in La Nina year is higher than normal year and El Nino year. The strategy that can be offered in terms of the use of varieties and the best planting time for Pangkep regency in the case of el nino is Tanggamus varieties with the first planting time on April 4 (V1W1) due to it's rate of yield reduction is 36.67%, while in the case of La Nina is Tanggamus varieties with the third planting time (V1W3) due to the rate of yield increasing is the highest one, namely 42.98%.

Morning, October 29, 2017 (Sunday)

Time: 11:20~12:50

Venue: Napa/Sonoma Room

Session 1: 6 presentations- Topic: "Agricultural Production and Food Science"

Session Chair: Prof. Khaled M. Bali

C0012 Presentation 2 (11:35~11:50)

Estimation of crop yield damages under extreme weather conditions using GCM daily ensembles : A case of Iowa, USA, 1950-2005

SEONGWOOK PARK
Pukyong National University, Busan, Republic of Korea

Abstract- In this study, we conducted the estimation which shows how the extreme heat stress and heavy rainfall damage the crops to yield. We first built a database for the 22 GCM (Global Climate Model) and crop yield data of corn and soybean of USDA(United States Department of Agriculture) for the period of 1950-2005 for the 99 counties in Iowa State, and max temperature which daily unit for each counties using Zonal Statistics. Then we selected 5 GCM which highly configurable using MAPE, RMSE, Correlation coefficient and Mean Bias between ECMWF(European Centre for Medium-Range Weather Forecasts) and GCM. Then we developed an integrated GCM that improved accuracy using ensemble. We selected the period from May to September which the growth period of soybean and corn, then we used Linear regression model and crop yield damage index model for estimation of yield damage when extreme weather conditions happened.

Morning, October 29, 2017 (Sunday)

Time: Napa/Sonoma Room

Venue: 11:20~12:50

Session 1: 6 presentations- Topic: "Agricultural Production and Food Science"

Session Chair: Prof. Khaled M. Bali

C1021 Presentation 3 (11:50~12:05)

Perceptions of male and female in collaborative process at Weija irrigation scheme of Ghana
Henry Mensah (presenter)and **Bachar Ibrahim**
Environmental and Resource Management from the Brandenburg University of Technology, Cottbus-Senftenberg, Germany

Abstract- Gender studies in irrigation farming are limited in Ghana. The objective of this study is to find out the difference between male and female participation, focusing on the types of farm activities they participate, reasons why they participate and how they significantly differ in perceptions on "Formal meeting". The study surveyed farmers' perception with semi-structured questionnaire administered to 151 irrigation farmers and analysed by descriptive statistics and non-parametric statistical test. The study relied on literature, interviews and personal observation. The responses of males and females tend to differ due to societal roles and expectations. The males mostly participated in scheme maintenance whereas females participated in fund raising. Additionally, the majority of the farmers attended meetings to acquire information and knowledge whereas farmers' opinion was given minimum attention. The findings of this study deepen our understanding on collaborative processes at WIS and informs decision makers to respond quickly to specific needs, preferences and interest of male and female farmers.

Morning, October 29, 2017 (Sunday)

Time: 11:20~12:50

Venue: Napa/Sonoma Room

Session 1: 6 presentations- Topic: "Agricultural Production and Food Science"

Session Chair: Prof. Khaled M. Bali

C1023 Presentation 4 (12:05~12:20)

Feasibility Analysis of Black Tiger Shrimp (*Penaeus monodon* Fabricius) Farming Development on Marginal Land in Pinrang District, South Sulawesi Province

Muhammad Hattah Fattah
Universitas Muslim Indonesia (UMI), Makassar, Indonesia

Abstract- White Spot Syndrome Virus (WSSV) and *Vibrio harvey* bacteria infection have caused pond area of approximately 39,022 ha in South Sulawesi to be marginal and unproductive. The research was conducted through survey activities including measurement of biophysical character in three villages in Suppa sub-district, Pinrang; Wiringtasi, Tasiwalie and Lotangsalo. The development of tiger shrimp farming during the Dry Season in Lotangsalo is undertaken through traditional, semi-intensive, and intensive farming method with 43.12 ha, 107.9 ha and 46.5 ha respectively. In Tasiwalie, the 56.92-ha area is suitable for the development of semi-intensive farming methods on marginal land, and the 162.6-ha area is good for intensive methods. The land suitability in Wiringtasi is 117.9 ha for semi-intensive method and 266.32 ha for intensive farming method.

Morning, October 29, 2017 (Sunday)

Time: 11:20~12:50

Venue: Napa/Sonoma Room

Session 1: 6 presentations- Topic: “Agricultural Production and Food Science”

Session Chair: Prof. Khaled M. Bali

C0044 Presentation 5 (12:20~12:35)

Rice and Coconut for Food Resilience and Environmental Conservation in Indonesia
Lina Warlina and Sri Listyarini
Universitas Terbuka, Tangerang Selatan, Banten, Indonesia

Abstract- Indonesia is the third largest rice producers in the world with most wetland or irrigated fields. With the large number of agricultural land conversion, the wetlands are increasingly reduced, especially irrigated rice fields. This can interfere food resilience. On the other hand, Indonesia is known as a palm oil country, because it produces coconut. Most of the coconut trees are old, so they are less productive. Regeneration of coconut trees takes 3-4 years to start producing, consequently during that time the coconut farmers are not earning money. With the aim to increase community's income, maintain food stability by taking into account environmental sustainability, a study on rice (paddy) and coconut integration is undertaken. Certain types of rice are planted in the fields and used as inter-cropping plants in coconut plantations. The results of the study concluded that economically the integration of rice-coconut can be more profitable because it will still provide income before the coconut trees produce. In addition, rice cultivation in the fields can maintain environmental sustainability.

Morning, October 29, 2017 (Sunday)

Time: 11:20~12:50

Venue: Napa/Sonoma Room

Session 1: 6 presentations- Topic: "Agricultural Production and Food Science"

Session Chair: Prof. Khaled M. Bali

K0025 Presentation 6 (12:35~12:50)

Effect of Frying in Different Cooking Oils on the Fatty Acid Profile of Nile Tilapia (Oreochromis niloticus) Fillets

Dinesh D. Jayasena, Kalana Fernando and Thilini Awanthika
Department of Animal Science, Uva Wellassa University, Sri Lanka

Abstract- This study was conducted to determine the effects of frying with three different cooking oils (soybean oil, sunflower oil, and coconut oil) on the fat content and fatty acid profile of Nile tilapia fillets. The fat content of Nile tilapia fillets increased after frying, irrespective of the cooking oil used ($p < 0.05$). Frying led to exchange of fatty acids between the Nile tilapia fillets and cooking oils. As a result of interactions, PUFA and ω-6 fatty acid contents and PUFA/SFA ratio of samples fried in soybean and sunflower oils significantly increased while the SFA contents decreased ($p < 0.05$). Frying had a negative effect on the ω-3 fatty acids, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) concentrations in all fried samples. Deep frying in the PUFA-enriched cooking oils increased the PUFA proportion in tilapia fillets but ω-3/ω-6 ratio in raw tilapia fillet was found to be reduced in all evaluated samples after deep frying. Maximum reduction in EPA and DHA content was observed when soybean oil was used as the frying medium. Coconut oil can be recommended for deep frying of Nile tilapia fillets as it resulted in a higher ω-3/ω-6 ratio than the recommended WHO standard (0.2).

Session 2

Tips: The schedule for each presentation is for reference only. In order not to miss your presentation, we strongly suggest that you attend the whole session.

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Napa Room

Session 2: 8 presentations- Topic: "Agricultural Economy and Management"

Session Chair:

K0033 Presentation 1 (13:50~14:05)

Participatory Assessment of farmer Livestock School on Goat Enterprise Management
Nathaniel Naanep, Patricia Barcelo and Anna Marie Alo
Sultan Kudarat State University, Philippines

Abstract- This paper focused on the participatory assessment of the Farmer Livestock School on Goat Enterprise Management (FLS- GEM) in SOCSKSARGEN Region, Philippines. It was conducted from January 2013 to December 2016 in Pigcawayan and Aleosan in Cotabato; Tampakan South Cotabato and Alabel, Sarangani Province whose graduates had already at least two (2) years of technology adoption comprising 30% of the total graduates.Technology timeline method was used to determine technology adoption pattern, degree of adoption and the reasons for such shift or continuous adoption. Similarly, impact benefit matrix was used to determine the difference that FLS- GEM had in their lives and on the community or organization where they belonged.Results revealed the following: 1. The degree of adoption of the FLS- GEM graduates varied. Majority of them were early adaptors of the different technology or tech mixes such as proper housing, stallfeeding of grasses, strategic deworming, vitamin/antibiotic supplementation and upgrading of stock using either upgraded back or artificial insemination, 2. The said training had positive assessment on their personal competence, farm productivity and community assets and 3. Educational attainment, ease of operation had better income from goat proceeds and contributed significantly to the adoption pattern of the graduates.

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Napa Room

Session 2: 8 presentations- Topic: "Agricultural Economy and Management"

Session Chair:

K3003 Presentation 2 (14:05~14:20)

Mobile Technology and Agricultural growth in Kenya
Kevin Kiarie, Mike Pekke, Jessica Pekke, Anthony Karanja, Stephanie Njambi & Maria
Tremor Eateries, Kenya

Abstract- The agricultural sector in Kenya is quickly adopting technological innovations that are aimed at improving agricultural output and minimizing the impact of climate change. Though the Kenya government has come up with ICT platforms for farmers, technological innovations are currently spearheaded by young entrepreneurs. The research brings to the forefront challenges faced by Kenya Farmers and the mobile technologies that that are helping farmers achieve high yields.

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Napa Room

Session 2: 8 presentations- Topic: "Agricultural Economy and Management"

Session Chair:

K3004 Presentation 3 (14:20~14:35)

Mobile Technology and Agricultural growth in Kenya
Kevin Kiarie, Mike Pekke, **Jessica Pekke,** Anthony Karanja, Stephanie Njambi & Maria
Young Kenyan Agri-entrepreneurs, Kenya

Abstract- The agricultural sector in Kenya is quickly adopting technological innovations that are aimed at improving agricultural output and minimizing the impact of climate change. Though the Kenya government has come up with ICT platforms for farmers,technological innovations are currently spearheaded by young entrepreneurs. The research brings to the forefront challenges faced by Kenya Farmers and the mobile technologies that that are helping farmers achieve high yields.

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Napa Room

Session 2: 8 presentations- Topic: "Agricultural Economy and Management"

Session Chair:

C0001 Presentation 4 (14:35~14:50)

Relationship between livelihood assets and strategies of small-scale farmers: Evidences from rain-fed areas of the Punjab, Pakistan

Muhammad Luqman, Muhammad Yaseen, Shoaib Nasir and Younas Afzal
University College of Agriculture, University of Sargodha, Pakistan

Abstract- Present research was designed to access the relationship, between livelihood capitals and strategies of small-scale farmers in rain-fed areas of Pakistan. Results highlighted that households possessed limited human, financial, physical, social and natural assets. Chi-square statistics showed a highly significant relationship ($P<0.05$) between livelihood assets and diversification strategies. It was found that social asset was highly influenced and depends upon income level of households as a majority (67.0%) of the poor people with a low income level had a low level of financial capital. The preference or choice of livelihood strategies by different income groups was measured through a chi-square test of independence ($\chi^2=122.770$) which shows that the majority (79.3%) of low income households used farming as their only major livelihood strategy. Due to which they were considered as more prone to poverty as the high majority (98.0%) of households were facing the problem of poverty and hunger (98.0%) at the household level. The results of multiple regression analysis showed that the problem of poverty & hunger (PPH) can easily be estimated from livelihood assets of respondents.

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Napa Room

Session 2: 8 presentations- Topic: "Agricultural Economy and Management"

Session Chair:

C0015 Presentation 5 (14:50~15:05)

Expert estimates of the share of agricultural support that compensates European farmers for providing public goods and services

Ivo Baur
Indiana University Bloomington, Bloomington, USA

Abstract- We used an expert survey to examine the performance of agricultural support schemes in the EU, Norway and Switzerland in terms of the shares of the payments that compensate farmers for the costs of providing services. Furthermore, we explored to which categories of ecosystem services the funding contributed. Expert age, type of organization and disciplinary background systematically affected the estimates. Controlling individual variation, the estimates differed significantly by measure objectives. The results suggest that expert estimates may complement the evaluation of schemes where complex policy objectives prevent a comprehensive evaluation based on objective measures.

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Napa Room

Session 2: 8 presentations- Topic: "Agricultural Economy and Management"

Session Chair:

C0029 Presentation 6 (15:05~15:20)

Determinants of Genetically Modified (GM) Maize Adoption and Use Intensity in OR Tambo District Municipality, Eastern Cape Province, South Africa

Siphokazi Ngcinela, Abbyssinia Mushunje and Saul Ngarava
Department of Agricultural Economics and Extension, University of Fort Hare, South Africa

Abstract- The objective of the study was to establish the factors having a bearing on the adoption and extent of adoption of Genetically Modified (GM) maize varieties. The cross sectional, descriptive and quantitative survey of small holder dry and irrigated maize producer study utilised an interview based semi-structured and pre-coded questionnaire. The study sites were Mqanduli, Port St John's and Flagstaff in King Sabatha Dalindyebo, Port St John's and Ingquza Hill Local Municipalities respectively, in OR Tambo District Municipality. Multiple purposive sampling was utilised in the selection of 704 respondents. Through a Cragg's Double Hurdle Model, the study found main source of income (10% level), level of education, household size, membership to a farmer group (5% level), access to extension services and farm size (1% level) having significant positive influence on the decision to adopt GM maize. Intensity of use of GM maize was positively influenced by membership to a farmers group (5% level), main source of income and farm size (1% level). The study concluded that being part of a farmer organization, the main source of income and farm size are the most significant determinants in the dual decision to adopt GM maize and the extent of utilisation of GM maize. The study recommends that policy targeting awareness and GM information dissemination towards farmer groups be promoted. The study also recommends a balance be struck between optimization of land size devoted to GM maize and its subsequent adoption and extensive use thereof. Income diversification in conjunction with awareness and information dissemination concerning GM maize should be promoted.

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Napa Room

Session 2: 8 presentations- Topic: "Agricultural Economy and Management"

Session Chair:

K2004 Presentation 7 (15:20~15:35)

The Social Conflict Between Stakeholders In The Governance Of Bantimurung Bulusaraung National Park, Province Of South Sulawesi, Indonesia

Sitti Rahbiah
Universitas Muslim Indonesia (UMI) Makassar, Indonesia

Abstract- Most conservation areas in Indonesia are currently under strong pressure and suffering severe damage caused by illegal logging, encroachment, uncontrolled logging and forest fires. The lack of an appropriate form of forest "governance" has been at the root of this problem. This research have been doing at Bantimurung Bulusaraung National Park in the South of Sulawesi Province. Conducted from January to April 2015, the research was to understand the social conflict in the governance of Bantimurung Bulusaraung National Park. The data gathering was carried out through a survey method. The social conflict model is based on interconnectivity performance by combining the stakeholders's roles constructed based on resources availability, organizing and norms. The results reveal that the dissipative structure in the national park is constructed around a co-management model through the profit-sharing-based external actor involvement. The ecological, economic, social and institutional balance is to arrange the paradox independence. The autopoesis involves linkage among the actors, interests, levels, disciplines and multi-scenarios constructed with the profit sharing, alternative livelihoods development and co-management model. The emergence construction is created based on the alternative model of rural conservation, development of productive business to reduce the society's economic dependence on the national park and special enclaves zones in the Bantimurung Bulusaraung National Park.

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Napa Room

Session 2: 8 presentations- Topic: "Agricultural Economy and Management"

Session Chair:

C1013 Presentation 8 (15:35~15:50)

Strengthening Social Capital: Role of non-state institutions in Highlands of Pakistan
Shoaib Nasir, Muhammad Luqman and Muhammad Yaseen
College of Agriculture, University of Sargodha, Pakistan

Abstract- In combating against poverty, social capital plays an important role especially in those countries where high degree of socio-economic inequalities exist. There is need to develop strong linkages between non-profit organizations and other stakeholders at different levels in order to increase social capital of resource poor rural people. Pakistan is also included in the list of countries where weak social capital is being observed. In strengthening social capital non-state institutions are playing significant role especially in highlands of Pakistan. With this background the present research was designed to assess the role of non-state institutions in strengthening social capital. Data were collected from three different sites of District Mansehra of Hazara region of Pakistan. Qualitative and quantitative approaches were used for data collection. The results showed that in site A, high social capital was found as compared to site B and C. Weak organizational linkages in terms of horizontal and vertical terms was found in all the three sites of research area. It was found that people with low level of financial capital (generally referred to as poor) possess low level of social capital as compared to people with high and medium level of financial capital (generally referred to as better off and well off). It was reported that due to low level of financial resources and lack time poor people seldom possess linkages or interactions within the society. In mainstreaming such individuals of society non-state institutions played significant role as these institutions mostly targeted the poor and marginalized people. The respondents of study reported although both registered as well as non-registered local groups/ organizations are working in developing rural people by enhancing their participation in community development activities, but the efficiency of local traditional groups is significant than registered development oriented organizations. The rationale behind this understanding is that the local traditional groups are working within the framework of local culture reason by representing actual and real needs of community members. Volunteers played very common role in building social capital especially for poor people by devoting a significant portion of their time to serve people.

Session 3

Tips: The schedule for each presentation is for reference only. In order not to miss your presentation, we strongly suggest that you attend the whole session.

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Sonoma Room

Session 3: 8 presentations- Topic: "Microbiology and Biotechnology"

Session Chair: Dr. Daniele Zaccaria

C0042 Presentation 1 (13:50~14:05)

Comparison of total and active bacterial community from rhizosphere of cereals (wheat, oat and barley) by culture-dependent and -independent approaches

Acuna Jacquelinne, Marileo Luis, Punolef Anchi, Jorquera Milko
Applied microbial ecology laboratory, Scientific and Technological Bioresource Nucleus, Universidad de La Frontera. Ave. Francisco Salazar 01145, Temuco, Chile

Abstract- The microbiome of the rhizosphere harboring a complex microbial community which living in a constant interaction with the roots of their host plant. The active fraction of bacterial communities plays an important role in plant growth and health. However, in the majorities of cases the active bacterial fraction has been not able to be detect by DNA analysis because it includes dormant and inactive cells. Here, we compare the active and total rhizobacterial communities of cereals (wheat, oat and barley) grown in Chilean Andisols by culture-independent and culture-dependent approaches. The denaturing gradient gel electrophoresis (DGGE) and Illumina MiSeq sequencing were used to compare the active and total community using DNA/cDNA fraction. The nMDS analysis of banding profiles revealed significance difference between the composition of the active and total community from each samples. The most dominant phyla in all the samples were Proteobacteria, Actinobacteria and Acidobacteria that together revealed more than 60% of the bacterial diversity present in the rhizosphere of wheat, oats and barley. However, representatives of the non-cultivable Verrucomicrobia phylum were observed with ranging from 7 to 0.7% in each samples evaluated. In the culture dependent approach, six culture media (LB, OLI, NM1, R2A, 1/10 R2A and REX) were using for isolating diverse bacteria from culturable community. The major proportion of CFU was observed on LB plates (1 to 6× 1011 CFU g−1 soil), whereas the lower amount of colonies were observed in R2A and OLI media ($p > 0.05$), independent to the rhizosphere analyzed. Thus, it appears that both contrasting approaches provided complementary information to characterize active bacterial community in the cereals rhizosphere.

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Sonoma Room

Session 3: 8 presentations- Topic: "Microbiology and Biotechnology"

Session Chair: Dr. Daniele Zaccaria

C1020 Presentation 2 (14:05~14:20)

Growth Performance of Fresh Water Microalgae *Chlorella* sp. Exposed to Carbon Dioxide
Titin Handayani, Adi Mulyanto, and Fajar Eko Priyanto
Agency for the Assessment and Application of Technology, Tangerang Selatan , Banten, Indonesia

Abstract- It is generally recognized, that algae could be an interesting option for reducing CO_2 emissions. Based on light and CO_2, algae can be used for the production various economically interesting products. Current algae cultivation techniques, however, still present a number of limitations. Efficient feeding of CO_2, especially on a large scale, is one of them. Current methods for CO_2 feeding to algae cultures rely on the sparging pure CO_2 or directly from flue gas. The limiting factor in this system is the solubility of CO_2 in water, which demands a considerable amount of energy for an effective gas to liquid transfer and leads to losses to the atmosphere. Due to the current ineffective methods for CO_2 introduction into algae ponds very large surface areas would be required for enough ponds to capture a considerable amount of the CO_2. The purpose of this study is to assess technology to capture carbon dioxide (CO_2) emissions generated by industry by utilizing of microalgae *Chlorella* sp. The microalgae were cultivated in a bioreactor culture pond raceway type. The result is expected to be useful in mitigating the effects of greenhouse gases in reducing the CO_2 emissions. The research activities include: (1) Characterization of boiler flue gas, (2) Operation of culture pond, (3) Sampling and sample analysis. The results of this study showed that, the initial assessment absorption of the flue gas by microalgae using 1000 L raceway pond completed by heat exchanger were quite promising. The transfer of CO_2 into the pond culture system was run well. This identified from the success of cooling the boiler flue gas from the temperature of about 200 ℃ to below ambient temperature. Except for the temperature, the gas bubbles into the culture media were quite fine. Therefore, the contact between the gas and the media was well performed. Efficiency of CO_2 absorption by *Chlorella* sp reached 6.68 % with average CO_2 loading of 0.29 g/L/day.

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Sonoma Room

Session 3: 8 presentations- Topic: "Microbiology and Biotechnology"

Session Chair: Dr. Daniele Zaccaria

K1015 Presentation 3 (14:20~14:35)

Nickel Accumulation in Soybean and Melastoma on Contaminated Soil
Netty Syam, Elkawakib Syam'un and Hidrawati
University Muslim Indonesia, Indonesia

Abstract- The Ni-contaminated soil was obtained from post-mining sites in Sorowako, South Sulawesi in which Soybean (Glycine max) and Melastoma were grown together in a pot experiment. The design of treatment was factorial design of two factors i.e. urea dose (0, 100, 200 and 300 kg/ha) and kind of compost (without compost, Chromolaena compost, Glyricidia compost and Husk compost 20 ton/ha). Biomass production and accumulation of nickel in the shoots (parts of the plant above ground) and roots (underground plant parts) were analyzed to determine the ability of plants to accumulate nickel. The values of Bioconcentration Factor (BCF) of the plant was calculated to analyze bioremediation of the plants. The results showed that urea and compost applications, especially Chromolaena and Glyricidia compost increased dry weight of soybean and Melastoma. In addition, application of urea and all types of compost resulted in decreased nickel accumulation in both soybean and Melastoma. Increased urea dose up to 100 kg/ha without compost caused BCF value increased to 0.24 in soybean (moderate accumulator category).

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Sonoma Room

Session 3: 8 presentations- Topic: "Microbiology and Biotechnology"

Session Chair: Dr. Daniele Zaccaria

K1011 Presentation 4 (14:35~14:50)

Bioremediation of Mine Waste Using Sulphate Reducing Bacteria Againts Rice Plant Bioindicator

Saida, Abdullah and St. Subaedah
Universitas Muslim Indonesia, Indonesia

Abstract- Mining efforts generate waste in the form of overburden. If the waste is not managed and disposed immediately, it will have a negative impact on the environment. The effects of mine waste toxicity are very low acidity, high sulfuric ion and heavy metal contents. The research was conducted in greenhouses and laboratories, aimed at studying and knowing the ability of BPS isolates in reducing sulfate ions, increasing pH and deposition of heavy metals in tailings and the ability of BPS in reducing the effects of mining waste toxicity on bioindicators. Compiled based on a complete randomized design of two factors of factorials pattern such as BPS inoculum type and organic material type. The first factor of BPS inoculum type consisted of 3 types, namely isolate K 06, K18, and K 28 and without BPS inoculum. The second factor of organic material consisted of four types: gamal, rice straw, blotong and manure. Parameters observed were pH, sulfate content, heavy metal content of Ni in overburden waste, water and plants (bioindicator).

The results reveal that the treatment of inoculum BPS K18 and gamal have the best effect on the growth of rice crops those are 63.25 cm high, 24.17 pieces of leaves, number of tiller 6.08 and dry weight of plant 21.48 g. While treatment without inoculum and blotong gave the lowest growth in plants. The decline of Ni metal content on overburden soil by treatment of BPS K18 and type of the lowest blotong organic material is 1810.69 ppm. The lowest sulfate content of soil is 43.22 ppm treated with BPS K 28 with organic manure.

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Sonoma Room

Session 3: 8 presentations- Topic: "Microbiology and Biotechnology"

Session Chair: Dr. Daniele Zaccaria

K0011 Presentation 5 (14:50~15:05)

Study of Tape Yeast and Sucrose Addition to Cocoa Beans Fermentation (Theobroma Cacao l.) on Small Scale

St Sabahannur, Netty Netty, Suraedah Alimuddin and Nirwana Nirwana
Universitas Muslim Indonesia, Indonesia

Abstract- The objective of this research is to study the effect of yeast tape concentration with sucrose on small-scale cocoa fermentation process. The research was conducted in the form of Completely Random Design of Factorial Pattern, two Factors. The first factor is tape yeast concentration consisted of: without yeast (control), yeast 0.5%, and 1%, The second factor is sucrose consisted of 1%, 2%, and 3% sucrose. Observations performed on dried cocoa beans include: fermentation index, pH, and reducing sugar content. The results showed that the addition of yeast and sucrose had a very significant effect on fermentation index, and pH, but no significant effect on reducing sugar content. The concentration of 1% tape yeast and 2% sucrose is the best treatment against fermentation index and pH as well as reducing sugar with fermentation index value 1.17, pH 5.89 and reducing sugar 1.48%.

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Sonoma Room

Session 3: 8 presentations- Topic: "Microbiology and Biotechnology"

Session Chair: Dr. Daniele Zaccaria

K0012 Presentation 6 (15:05~15:20)

Effectivity of Trichoderma Asperellum Against Water Availability Level in Soybean
Nirwana Nirwana and St Sabahannur
Universitas Muslim Indonesia, Indonesia

Abstract- This study aims to analyze the effect of Trichoderma asperellum utilization on the level of water availability and nutrient in soybean.. This study was conducted by inoculating of Trichoderma with four dosage levels (without inoculation, 0.025 gram / seed inoculation, 0.050 gram / seed, and 0.075 gram / seed) combined with water level capability with three levels of field capacity (80-100%, 60-80 %, and 40-60%). The results showed that Trichoderma with a dose of 0.075 g / seed with a water level of 80-100% can improve the growth and production of soybean crops.

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Sonoma Room

Session 3: 8 presentations- Topic: "Microbiology and Biotechnology"

Session Chair: Dr. Daniele Zaccaria

K0019 Presentation 7 (15:20~15:35)

Morphological and Genetic diversity of Aspergillus Genus associated with Members of Sternorrhyncha, Hemiptera

Waheed Anwar, Ahmad Ali Shahid, Muhammad Saleem Haider, Kiran Nawaz, Muhammad Nasir Subhani and Sehrish Iftikhar
University of the Punjab, Pakistan

Abstract- Aspergillus consists of many species is saprophytic fungi that are found in various climatic conditions. In the present study, different species of *Aspergillus* were isolated from aphid, whitefly and mealybug of the cotton field. The isolated species were morphologically as well as genetically characterized. *Aspergillus flavus*, *A. fumigatus*, and *A. oryzae* were isolated. The isolated fungi were differing in colony color and in conidial attachments. Morphology of *Aspergillus* species did not differ with plant isolates. Further phylogenetic analysis revealed that different species of *Aspergillus* fell into different clades showing that they are not similar genetically when characterized on their internal transcribed spacer region in species level but there was no variation in isolate level. Variability among *Aspergillus* species based on ITS showed that it is not enough to score diversity within species and isolates.

Afternoon, October 29, 2017 (Sunday)

Time: 13:50~15:50

Venue: Sonoma Room

Session 3: 8 presentations- Topic: "Microbiology and Biotechnology"

Session Chair: Dr. Daniele Zaccaria

C0011 Presentation 8 (15:35~15:50)

Estimation of Soil Moisture Content on Korean Cropland Using Various Spatial Dataset with Deep Learning

Yeong-Ho Kim and Yang-Won Lee
Pukyong National University, Busan, Republic of Korea

Abstract- Climate change is expected to make global climate system changes more severe. This means that climate change will have significant impact on the hydrological cycle. The hydrological cycle is very important phenomenon from ecological aspect. Among them, soil moisture is one of the important factors to understand hydrological phenomenon and affect weather change.

In this study, to estimate the soil moisture content of farmland in Korea using Support Vector Machine, Multi Linear Regression, Artificial Neural Network and Deep Neural Network using remote sensing data. Remote sensing data were obtained from Land Surface Temperature data of Moderate Resolution Imaging Spectroradiometer, Normalized Difference Vegetation Index data of Geostationary Ocean Color Imager, and Local Data Assimilation and Prediction System climate model data of Korea Meteorological Administration such as wind speed, temperature, precipitation. And soil moisture content data from Rural Development Administration of Korea were used to verify the result data.

Session 4

Tips: The schedule for each presentation is for reference only. In order not to miss your presentation, we strongly suggest that you attend the whole session.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:25

Venue: Napa Room

Session 4: 9 presentations- Topic: "Animal Science and Botany"

Session Chair:

K0001 Presentation 1 (16:10~16:25)

Detection of Cryptosporidium Parasite in Ruminants from Highland and Lowland Areas of Myanmar

Saw Bawm, Kathy Moe, Baby Kyi Soe, Hla Myet Chel, Lat Lat Htun and Ryo Nakao
Hokkaido University, Japan

Abstract- Cryptosporidium is an intracellular coccidian parasite. It can cause food and water-borne zoonotic disease in human and economic loss in livestock production. Two cross-sectional studies were conducted for the prevalence and associated risk factors of Cryptosporidium infection in mithun, cattle and buffaloes within Mindat and Yangon areas, Myanmar. In Mindat area, a total of 317 fecal samples were collected from mithun, cattle and buffaloes. In Yangon area, a total of 350 fecal samples were collected from cattle. They were examined by modified Ziehl-Neelsen acid fast staining method and floatation method. Overall, in Mindat area, 102 (32.2%) samples showed positive with prevalence of 56 (24.6%), 15 (50.0%) and 31 (52.5%) in mithun, cattle and buffaloes, respectively. In Yangon area, 168 (48%) samples showed positive. The prevalence of Cryptosporidium infection was significantly associated with age, sharing water source and mixed of animal species in the pasture. Molecular characterization of Cryptosporidium oocysts is underway.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:25

Venue: Napa Room

Session 4: 9 presentations- Topic: "Animal Science and Botany"

Session Chair:

K0003 Presentation 2 (16:25~16:40)

Effect of Levels of Methionine Supplementation in Soaked-and-Boiled Mucuna Sloanei in Turkey Poults Diet

Adegbenro Akinmutimi and Michael Odein
Michael Okpara University of Agriculture, Umudike, Nigeria

Abstract- Methionine supplementation at 0.3% enhanced a high quality animal protein production at reduced cost. The objective of this study was to develop a high quality animal protein at reduced cost through the use of alternative feedstuff (Mucuna sloanei seed meal). One hundred and fifty day-old B- Not breed turkey poults were used to assess the quantitative replacement of soybean meal with soaked- and - boiled Mucuna sloanei seed meal (SBMSSM) with or without methionine supplementation. Ten birds per treatment were replicated thrice in a completely randomized design .Diet I was control (0% SBMSSM), diet 2 had 5% SBMSSM quantitatively replacing soybean but without methionine supplementation, Diets 3 – 5 had 5% SBMSSM quantitatively replacing soybean but with 0.1, 0.2 and 0.3% methionine supplementation respectively. Feed and water were given ad-libitum for 56 days. The crude protein, gross energy and anti-nutritional factors of the test feedstuff were 23.74%, 3.40kcal/kg, L –Dopa (0.76%), tannin (0.13%) and hydrogen cyanide (1.37mg/kg) respectively. Growth performance values showed significant differences ($P<0.05$) among the treatment means. The feed conversion ratio of birds placed on diet 5 was the least. Haematological values for treatment means fell within the normal range established for turkey poults. Urea, albumin and total protein values showed significant ($P<0.05$) differences. Urea value obtained for birds placed on diet 5 was significantly lower than all other treatment means. Birds placed on diet 5 and diet 1 were statistically similar for the values of albumin and the total protein. Birds placed on diet 5 had the least cost/kg weight gain and highest gross margin; making it economically viable among others. Its use in ration formulation will lead to reduced cost of feed production making turkey product more affordable and hence increase in animal protein intake globally.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:25

Venue: Napa Room

Session 4: 9 presentations- Topic: "Animal Science and Botany"

Session Chair:

K0029 Presentation 3 (16:40~16:55)

Effect of Mixture Levels of Forage Sorghum with Cowpea, Lablab or Mucuna legumes on Diet Intake, Digestibility, Growth and Blood Metabolites of Indigenous Pedi Bucks of South Africa

Jones Ng'Ambi
School of Agricultural and Environmental Sciences, University of Limpopo, South Africa.

Abstract- Indigenous Pedi bucks are economically, nutritionally and culturally important livestock species especially among the agrarian communities of South Africa. However, the productivity of these goats in the subtropics is limited by acute shortages of good quality feed, especially during the dry and winter seasons. Supplementation with forage legumes may be appropriate alternative for increasing intake and digestibility of these poor quality roughages. Four experiments were conducted to determine the effect of levels of legume supplementation on diet intake, digestibility, growth and blood metabolites of indigenous Pedi bucks on a basal diet of forage sorghum. Vigna ungiculata (cowpeas), Lablab purpureus (lablab) and Mucuna pruriens (mucuna) were used in this trial at different supplementation levels. Fifteen growing yearling male Pedi bucks with mean live weights of 15 ± 4 kg (Experiment 1), 18 ± 2 kg (Experiment 2), and 17 ± 3 kg (Experiment 3) were used. Nine goats with a mean live weight of 20 ± 4 kg were used in Experiment 4 which compared mixture levels of supplementation for optimal intake. In each experiment, different goats were used. A total of 54 goats were used in all the experiments. Levels of legume supplementation for optimal feed intake, digestibility, weight gain, feed conversion ratio, blood metabolites and nitrogen balance were determined using a quadratic regression equation. Mucuna hay had the highest ($P<0.05$) hydrolysable tannin contents when compared to sorghum, lablab and cowpea. Lablab hay had higher ($P<0.05$) total polyphenolics when compared to mucuna, cowpea and sorghum hays. Dry matter intake and digestibility of the mixtures increased with increasing levels of the respective forage supplementations. Cowpea and mucuna hay inclusions improved ($P<0.05$) final live weights and feed conversion ratios, while goats on lablab hay inclusions lost weight. At optimal intakes, goats supplemented with mucuna hay had a better ($P<0.05$) feed conversion ratio than those supplemented with lablab and cowpea hays. Diet intake, digestibility and final live weights of the goats were optimised at different levels of forage supplementation.

Afternoon, October 29, 2017 (Sunday)

Time: 15: 16:10~18:25

Venue: Napa Room

Session 4: 9 presentations- Topic: "Animal Science and Botany"

Session Chair:

K0008 Presentation 4 (16:55~17:10)

Sensitivity Index of Several Drought-Tolerant Maize Genotipes on the Drought Stress
St. Subaedah, Sudirman Numba, Saida Wahid and Farizah Dhaifina Amran
Moeslem University of Indonesia, Indonesia

Abstract- One of the efforts that can be done in the development of maize in dry land is the use of drought-tolerant varieties. This study was conducted with the aim of analyzing the sensitivity index of several drought-tolerant corn genotypes in an environment that suffered from drought stress. The study was conducted from June to August 2016 in Gowa District, South Sulawesi. The treatments were arranged in Split Plot Design. The main plot was the treatment of stress consisting of two levels ie without stress (optimal water delivery) and the treatment of stress (watering was stopped when the plants are 35 to 70 days old). Subplot was maize genotypes consisting of 8 hybrid candidate maize genotypes ie G1, G2, G3, G4, G5, G6, G7, G8 and two checked varieties (Bima7 and Lamuru). Result of observation on drought sensitivity index from plant height variables showed that genotype G2 and G5 were included in the drought tolerant genotype category, while genotype G6, G7, and G8 medium tolerant. For dry seed weight parameter per ha indicated that genotype G6, G7, and G8 have Sensitivity index value in medium tolerant to tolerant category. The production rate of G6, G7 and G8 genotypes under drought-stressed conditions was still quite high between 6.92-7.47 t.ha-1.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:25

Venue: Napa Room

Session 4: 9 presentations- Topic: "Animal Science and Botany"

Session Chair:

K0018 Presentation 5 (17:10~17:25)

Urtica dioica L. An Addition to Wild Hosts for Begomovirus and Associated Satellites in Pakistan

Muhammad Javed Iqbal, Muhammad Zia-Ur-Reham, Usman Hameed and Muhammad Haider
University of the Punjab, Pakistan

Abstract- Wild vegetation has been recognized as the reservoir of a vast variety of phytopathogens including plant viruses. Weeds not only provide dwelling to viruses in off season of primary hosts but also give an infinite opportunity to plant viruses to evolve by recombination. Present study revealed the presence of a monopartite begomovirus "*chili leaf curl virus"* (ChiLCV), two alpha satellites, *Bhendi yellow vein alphasatellite* (BYVA), *Ageratum yellow vein Pakistan alphasatellite* (AYVPA), and one beta satellite; *Ageratum yellow leaf curl betasatellite* (AYLCB) in single weed sample of nettle weed (*Urtica dioica* L.) from Pakistan. Up to author's knowledge these are the first reports of ChiLCV, BYVA, AYVPA and AYLCB infecting this weed species worldwide. This can act as threat to field crops and also proved to be an increase in host range of *Begomovirus* and associated satellites.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:25

Venue: Napa Room

Session 4: 9 presentations- Topic: "Animal Science and Botany"

Session Chair:

C0004 Presentation 6 (17:25~17:40)

Inoculation with *Pythium Irregulare* Increases the Water Use Efficiency of Wheat Exposed to Post-anthesis Drought

Abdallah M. Aldahadha, David Backhouse and Nigel W.M. Warwick
University of New England, Armidale, Australia

Abstract—The hypothesis that root rot caused by *Pythium irregulare* reduces the water use efficiency of wheat was tested in a system which simulated field conditions with late season water stress. Inoculation with *Pythium* significantly reduced transpiration during vegetative growth, so that plants entered post-anthesis drought with more available water. Although weekly transpiration rates were higher in inoculated plants than controls during the later stages of drought, infected plants were unable to make use of all of the extra water. There were no significant effects of inoculation on shoot biomass or grain yield, while total transpiration was reduced by 14%. Infected plants therefore had a significantly higher integrated water use efficiency (grain yield relative to transpiration) than controls. Infected plants were significantly more stressed than controls during the drought, despite higher soil moisture, and showed reduced ability to use stomatal conductance to regulate leaf water potential. *Pythium* infection caused adverse changes to plant water use and water relations, but these did not translate into reductions in growth or yield. This, and the unexpected increase in water use efficiency, highlights the need to consider interactions with other environmental stresses when making assumptions about the effects of root diseases on crop productivity.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:25

Venue: Napa Room

Session 4: 9 presentations- Topic: "Animal Science and Botany"

Session Chair:

K0026 Presentation 7 (17:40~17:55)

Yield and Phytochemical Attributes of Ashwagandha (Withania somnifera Dunal) Tubers as Affected by Source of Nutrients

Ewon Kaliyadasa, Lalith Jayasinghe and Sriyani Peiris
Uva Wellassa University, Sri Lanka

Abstract- Ashwagandha *(Withania sominifera Dunal)* is an imperative medicinal crop in herbal industry since time immemorial which roots are in commercial importance. This herb known for its ability to enhance the resistance to stresses, increases stamina and promotes general wellbeing. The changes in the plant growth and quality of the roots mainly depend on different agronomic practices coupled with stage of harvesting. Plants grown under organic and inorganic sources of nutrients were used up to twelve months of sowing for yield analysis and tubers were analyzed for its alkaloid, total fiber and withaferine A contents upto ten months. Highest values for all above phyto constituents were recorded in tubers of organically grown compared to inorganically fertilized plants except crude fiber content and at six months after sowing is the best stage for harvesting to obtain high quality tubers. This is an important study for biochemical standardization of Ashwagandha tubers in commercial processing.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:25

Venue: Napa Room

Session 4: 9 presentations- Topic: "Animal Science and Botany"

Session Chair:

K3001 Presentation 8 (17:55~18:10)

Effect of Compost and Different NPK Levels on Growth and Yield of Three Tomato (Solanum lycopersicum) Varieties in Sri Lanka

HASL Jayasinghe, ANR Weerawansha
Uva Wellassa University of Sri Lanka

Abstract-The introduction of synthetic fertilizers has brought various types of detrimental impacts and people attempt to find out eco-friendly alternatives to chemical compounds for minimizing the dependency on synthetic chemicals. In this context, the exploitation of alternative growth substrates is of great interest like compost-like substrates. Therefore, the study was made to study the effect of compost and different levels of NPK fertilizer on growth and yield performance of three different recommended tomato varieties under different field conditions at Walimada, Sri Lanka. Treatment consisted of three tomato varieties (Roma, Thilina, and T 245) and five different fertilizer levels including compost & NPK fertilizers. Treatments were considered as control (without compost and NPK fertilizer), 100 % of compost, 100 % of recommended dosage of NPK fertilizers, 50% of compost with 50% of recommended dosage of NPK fertilizers, and 75 % of compost with 25 % of recommended dosage of NPK fertilizers. Field management practices were practiced according to the recommendations given by Department of Agriculture of Sri Lanka. Effect of different fertilizers on vegetative growth, reproductive growth and yield of three tomato varieties was evaluated. According to results, there was a significant different among control treatment and treatment consisted with 50% of compost with 50% of NPK fertilizer treated Roma and Thilina on days to attained 50% of flowering. There were no significant differences between treatments consisted with 100% of NPK fertilizer with 50% of compost and 50% of NPK fertilizer on days to attained 50% of flowering, number of fruit per plant and yield of varieties except the yield of Roma variety ($P<0.05$). Results showed that all treatments except chemical fertilizer application improved the soil organic C, total N, P and K status. Increase in microbial biomass C and N was observed in soils receiving organic manures only or with the combined application of organic and chemical fertilizers.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:25

Venue: Napa Room

Session 4: 9 presentations- Topic: "Animal Science and Botany"

Session Chair:

K0037 Presentation 9 (18:10~18:25)

The latest FAD – Faecal antibody detection in ruminants
Andrew Cooke, Kathryn Watt, Eric Morgan, Dan Nussey and Jennifer Dungait
Rothamsted Research & University of Bristol, United Kingdom

Abstract- Antibodies at gastrointestinal mucosal membranes play a vital role in immunological protection against a range of pathogens including bacteria, viruses, and helminths. Within agriculture, the consequences of such diseases, represent significant productivity losses through a variety of biological mechanisms, therefore gastrointestinal health is central to efficient and productive livestock production. Faecal samples were taken from 114 cattle, across three UK beef farms, with matched blood samples taken 22 of those animals. In order to achieve faecal antibody detection (FAD), a novel faecal supernatant was extracted along with serum from the blood. Samples were analysed, via adapted ELISA protocols, for levels of IgA, IgG, IgM, and Teladorsagia circumcincta specific IgA, IgG, IgM, and IgE. Faecal nematode egg counts were also conducted on all faecal samples. Assays performed successfully. FAD holds the potential to act as a convenient and non-invasive diagnostic method for the assessment of animal health, as a part of a wider health assessment.

Session 5

Tips: The schedule for each presentation is for reference only. In order not to miss your presentation, we strongly suggest that you attend the whole session.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:40

Venue: Sonoma Room

Session 5: 10 presentations- Topic: "Resources and Environmental Science"

Session Chair: Prof. Pedro Joaqu ń Guti érrez-Yurrita

C0024 Presentation 1 (16:10~16:25)

Cap-and-Trade Regulation and Competition in Two-Stage Supply Chains
Guowei Dou
Shenzhen University, China

Abstract- Cap-and-trade regulation is the main low-carbon policy to curb carbon emissions. With this regulation, this paper explores the impacts of region-cap (the cap allocated to a region) as well as production competition on the production quantities and profits of the firms in two Make-To-Order supply chain structures, and an extended case with two manufacturers and two retailers. By modeling two-stage Stackelberg game, we find that the manufacturer's optimal profit firstly decreases and then increases as the region-cap increases. In the case with the production competition, it is shown that the production quantities of the low-carbon manufacturer are decreasing in the region-cap given a low substitute coefficient, and are increasing in the substitute coefficient when it is high. Besides, the manufacturers' optimal profits are firstly decreasing and then increasing in the region-cap, and the low-carbon manufacturer's optimal profit is increasing in the substitute coefficient when it has a high marginal profit. By comparing the situation with that without production competition, we find that, with a small substitute coefficient, the original manufacturer's production quantities are increasing in it. In the extended case, it reveals that the optimal production quantities of low-carbon manufacturer is always increasing in region-cap, while the opposite may true for the original manufacturer.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:40

Venue: Sonoma Room

Session 5: 10 presentations- Topic: "Resources and Environmental Science"

Session Chair: Prof. Pedro Joaqu ń Guti érrez-Yurrita

C0008 Presentation 2 (16:25~16:40)

Risk Assessment of Forest Fire in The Korean Peninsula Using Satellite and Weather Dataset
In-hak Kong and Yang-Won Lee
Pukyong National University, Busan, Republic of Korea

Abstract- It is very important to assess the degree of forest fire risk in forest and property protection. Most fire risk assessments are calculated using meteorological factors. These meteorological factors can't directly estimate the degree of drying of the fuel and indirectly that's estimated. Therefore, A direct estimation method is needed. That can be done using TVDI(Temperature Vegetation Dryness) and NDDI(Normalized Difference Drought Index) to assess the risk, including the dryness of the fuel. The purpose of this study is to assess the fire risk by logistic regression by combining the typical fire risk model used in each country and the satellite based surface dryness. The fire risk indexes used in the study are CFWI in Canada, FFDI in Australia, Haines Index in the US, and satellite-based surface dryness is TVDI and NDDI. Combining the fire risk model using the meteorological factor with the satellite based ground dryness, it is expected that the prediction of the fire risk can be improved by predicting the dryness of the fuel more accurately.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:40

Venue: Sonoma Room

Session 5: 10 presentations- Topic: "Resources and Environmental Science"

Session Chair: Prof. Pedro Joaqu ń Guti érrez-Yurrita

C0014 Presentation 3 (16:40~16:55)

Blending of Multi-satellite precipitation using Ensemble Bayesian model averaging(EBMA) for Northeast Asia

Kwangjin Kim and Yang-Won Lee
Pukyong National University, Busan, Republic of Korea

Abstract- Precipitation is observed with sensors of various satellites. The precipitation product obtained through satellite have different values depending of the satellites. This is due to uncertainties caused by different observation times and the sensors. In this study, multi-precipitation products are blended. Weighted averages were applied to the overlapping parts. The weights of ensemble members were obtained using ensemble Bayesian model averaging. Microwave humidity sounder(MHS) of National Oceanic and Atmospheric Administration 18(NOAA-18), Microwave Imager instrument(GMI) of Global Precipitation Measurement(GPM) and Special Sensor Microwave Imager/Sounder(SSMIS) of Defense Meteorological Satellite Program(DMSP) satellite F16 were used as ensemble member. And Dual-frequency Precipitation Radar(DPR) of GPM is used as reference data to calculate the weights. In order to know the existence of precipitation, the probability of precipitation was derived using logistic regression. Also, Gamma distribution was used to obtain the rain rate. The calculated EBMA rain rate is compared with rain rate of DPR for training period. As the result, the correlation, mean bias, mean absolute error, and root mean square error were improved over raw ensemble members, mean ensemble and median ensemble.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:40

Venue: Sonoma Room

Session 5: 10 presentations- Topic: "Resources and Environmental Science"

Session Chair: Prof. Pedro Joaqu ń Guti érrez-Yurrita

C0037 Presentation 4 (16:55~17:10)

Hydrological Modeling to Evaluate Future Climate Change Impacts in Sind River Basin, India

Boini Narsimlu, Ashvin K. Gosain and **B. R. Chahar**
Indian Institute of Technology Delhi, Delhi, India

Abstract- This research work aims to assess the impact of future climate change on water resources availability in Sind river basin, India using Hydrological model SWAT. Future climate projections under PRECIS RCM generated outputs with IPCC SRES A1B Scenarios have been used. Model calibration and validation has been carried out with average mean monthly stream flow observations recorded at three gauge stations (Pachauli, Seondha and Bhind). First thirteen years (1987-99) stream flow observations have been used for calibration with a initial 3 years (1987-89) data as warm up period then calibrated for next 10 years and model has been validated for the consequent 6 years (2000-05) with measured values. The model simulations with evaluation statistics shows a very good performance of stream flow predictions with R^2 values ranged from 0.83 - 0.92, NSE from 0.81- 0.89 and PBIAS from -12.08 to -24.19 for the observed and simulated values of stream flow during calibration and validation. Results show that evapotranspiration (ET) across the Sind river basin is increasing from baseline to mid century (5%) and to end century (6%) and the increase in precipitation in end century (18%) indicates that more extreme high intensity events may be expected due to climate change.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:40

Venue: Sonoma Room

Session 5: 10 presentations- Topic: "Resources and Environmental Science"

Session Chair: Prof. Pedro Joaqu ń Guti érrez-Yurrita

C3001 Presentation 5 (17:10~17:25)

Challenges and developments in the utilization of fly ash in China
Shu-Hua Ma, Min-Di Xu, Qiqige, Xiao-Hui Wang, Xiao Zhou
Institute of Process Engineering, Chinese Academy of Sciences, Beijing, China

Abstract- China's coal-fired power plants produce about 600 million tons fly ash annually, which has caused severe economic and environmental problems. This paper first describes briefly the production and utilization status of coal fly ash in China. Then it analyzes the main challenges to the fly ash utilization in China due to the conflict between the huge amount production of fly ash and the depressed consumption of fly ash, as well as the increasing driving forces in the environmental protection. Subsequently, the new developments of fly ash utilization in China, including valuable elements extraction, geopolymer production, fly ash-based ceramics synthesis and soil desertification control are introduced in detail.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:40

Venue: Sonoma Room

Session 5: 10 presentations- Topic: "Resources and Environmental Science"

Session Chair: Prof. Pedro Joaqu ń Guti érrez-Yurrita

C4001 Presentation 6 (17:25~17:40)

Study of the Removal of Lead from Human Blood Plasma Using *Allium Cepa* as Biosorbent

P. A. Ekwumemgbo and V. U. Jibunor
Ahmadu Bello University, Zaria, Kaduna State, Nigeria

Abstract- Lead is an environmental pollutant that is nonbiodegradable, when released into the environment, could enter into the human system eliciting negative effects. One of the natural products largely consumed due to its numerous therapeutic potential is *Allium cepa* (onion bulb). This work investigated the removal (adsorption) of lead from human blood plasma onto *Allium cepa In vivo*. The rate of adsorption was studied with time at adsorption maximum values of pH (4), lead concentration (50.00 mgL^{-1}), *Allium cepa* dose (0.4 g) and physiological temperature (38^0C). The data was found to best fit into the Tempkin model with binding energy ($A_{T)}$ = 1.340 Lg^{-1} and heat of biosorption (b) = 48.4625. From Dubinin-Radushkevich isotherm, mean free energy of adsorption (E) = 0.0053kJ/mol was obtained indicating physiosorption. Freundlich isotherm result, K_f = 3,169.27 Lmg^{-1} depicted significant amount of lead was adsorbed per adsorption site. Result fitted into pseudo second order kinetics model with the experimental biosorption capacities of 0.1701 mgg^{-1}; intra-particle diffusion was not the only rate-controlling step; physiosorption and chemisorption occurred between lead and *Allium cepa*. Authors recommend *In vivo* study with experimental animals.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:40

Venue: Sonoma Room

Session 5: 10 presentations- Topic: "Resources and Environmental Science"

Session Chair: Prof. Pedro Joaqu ń Guti érrez-Yurrita

C0045 Presentation 7 (17:40~17:55)

Designing Heap Leaching for Nickel Production that Environmentaly and Economically Sustain

Sri Listyarini
Universitas Terbuka, Tangerang Selatan, Banten, Indonesia

Abstract- Some of laterite mineral from Southeast Sulawesi has low grade nickel contain. This research was done in 3 steps to analyze the possibility of extracting nickel from low grade laterite for industry. In the first step of this research heap leaching method is used in laboratory scale for extracting the nickel from laterite mineral using sulfuric acid and hydrochloric acid. The result of the first step research is the higher the acid concentration used will be the more concentration of nickel produced in the Pregnant Leach Solution (PLS), and with the same concentration of sulfuric acid to produce more nickel than hydrochloric acid. The second step of this research was done in micro industry scale using sulfuric acid to leach nickel from laterite with the variety of laterite height and sulfuric acid concentration. The result from the second step research is stated that 2 M of sulfuric acid is the optimum concentration and 1.5 m laterite sample height. The third step of this research is to design the pilot industry scale for nickel heap leaching reactor with bamboo as a part of reactor and to analyze the feasibility cost. The reactors designed in this study do not produce waste, so that it is expected to meet environmental sustainability rules. The results of the calculation show that the heap leaching reactors designed in this reseach will economically sustain, and will give benefit for 126.13 US $ for each nickel production.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:40

Venue: Sonoma Room

Session 5: 10 presentations- Topic: "Resources and Environmental Science"

Session Chair: Prof. Pedro Joaqu ń Guti érrez-Yurrita

C1016 Presentation 8 (17:55~18:10)

Impact of Global Warming on Dissolved Oxygen Concentrations and on Waste Allocation Plan of Nile River in Egypt

Eng. Rawnaa Yassin and Dr. Sherine el Baradei
The American University, Egypt

Abstract- Global warming affects many aspects of life thus affecting ecosystem and water quality in rivers. This research investigates the impact of global warming on dissolved oxygen (DO) concentrations in Nile river. The study is done on Nile River in Egypt at three monitoring stations

A mathematical model was developed to predict air temperatures from 2013 till 2030 and hence predict values of water temperatures and resulting DO concentrations. Furthermore, the effect of global warming on locations of water and waste water treatment plants on river Nile was studied. The study investigated temperatures and DO values in summer (peak discharge of Nile River In Egypt) and in winter (lowest discharge in the Nile in Egypt).

It was found that values of critical DO concentrations were negatively impacted and thus decreased over the years according to the global warming effects by the following amounts: at Luxor 3.99% in February and 4.26 % in August, at Cairo 4% in February and 4.8% in August and at Alexandria 1.34% in February and 5.16% in August. Furthermore, global warming has a considerable effect on locations of water and waste water treatment plants on rivers and thus on the waste allocation plan.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:40

Venue: Sonoma Room

Session 5: 10 presentations- Topic: "Resources and Environmental Science"

Session Chair: Prof. Pedro Joaqu ń Guti érrez-Yurrita

K0007 Presentation 9 (18:10~18:25)

Model of Community Behavior in the Management of the Community Forest in Bulukumba Regency, South Sulawesi, Indonesia

Nuraeni L. Basri, Rasmeidah Rasyid, Annas Boceng, Mais Ilsan, Abdullah and Farizah Dhaifina Amran
Moeslem University of Indonesia, Indonesia

Abstract- One of the land rehabilitation patterns by vegetation is to build community forests. Involving the community in the management of community forest should be supported with a correct understanding of the function and the role of forests for life. The aim of the research is to analyze the model of community behavior in the management of community forest in Bulukumba Regency, South Sulawesi, Indonesia. The analytical method used is Structural Equation Model (SEM). The research variables consist of 1 endogen variable that is behavior in the management of community forest and 4 exogenous variable that are farmers' internal factors; community culture; the income of community forest; and community knowledge regarding the benefits of community forest. The results showed that the community knowledge about the benefits of community forest affects the community behavior in managing community forests directly and significantly, which means that a good knowledge of farmers about the benefits of community forests will result to a better behavior of farmers in managing the community forest.

Afternoon, October 29, 2017 (Sunday)

Time: 16:10~18:40

Venue: Sonoma Room

Session 5: 10 presentations- Topic: "Resources and Environmental Science"

Session Chair: Prof. Pedro Joaqu ń Guti érrez-Yurrita

C0049 Presentation 10 (18:25~18:40)

Air Quality Prediction: Big data and Machine Learning Approaches
Gaganjot Kaur Kang, Jerry Zeyu Gao, Sen Chiao, Shengqiang Lu and Gang Xie
Department of Computer Engineering, San Jose State University, USA

Abstract—Monitoring and preserving air quality has become one of the most essential activities in many industrial and urban areas today. The quality of air is adversely affected due to various forms of pollution caused by transportation, electricity, fuel uses etc. The deposition of harmful gases including carbon dioxide, nitrous oxide, methane etc. is creating a serious threat for the quality of life in smart cities. With increasing air pollution, we need to implement efficient air quality monitoring models which collect information about the concentration of air pollutants and provide assessment of air pollution in each area. Hence, air quality evaluation, monitoring, and prediction has become an important research area. In the past, many environmental researchers have dedicated their research efforts on this subject using conventional approaches. However, the quality of air is affected by multi-dimensional factors including location, time, and uncertain variables. Recently, many researchers began to use the big data analytics approach due to the advancements in big data applications and the availability of environmental sensing networks and sensor data. One of the prime concerns for researchers is the use of adequate modelling tools that permit interpretation and validation of the data collected from multiple resources regarding air pollution. The aim of this research paper is to investigate various big-data and machine learning based techniques for air quality forecasting in diverse conditions. This paper reviews the published research results relating to air quality evaluation using methods of artificial intelligence, decision trees, support vector machines, deep learning etc. Moreover, the paper classifies and compares the applied big data analytics approaches for air quality assessment. Furthermore, the paper also throws light on some of the challenges and future research needs.

Dinner	**17:00**

Half Day Visit & Half day Tour

October 30, 2017 (Monday)

Time: 8:00~18:00

8:00---8:30 Picking us up from Crowne Plaza Los Angeles International Airport Hotel to the University of California, Los Angeles (**UCLA**).

8:30---11:30 Visiting the University of California, Los Angeles (**UCLA**) in the morning.

The University of California, Los Angeles (UCLA) is a public research university in the Westwood district of Los Angeles, California, United States. It became the Southern Branch of the University of California in 1919, making it the second-oldest undergraduate campus of the ten-campus University of California system. It offers 337 undergraduate and graduate degree programs in a wide range of disciplines. UCLA enrolls about 31,000 undergraduate and 13,000 graduate students, and had 119,000 applicants for Fall 2016, including transfer applicants, the most applicants for any American university.

12:00---13:00 Having lunch at the University

14:00---18:00 Los Angeles Afternoon City Tour with Movie Stars Homes

This afternoon tour focuses on hot spots! You'll see Hollywood with its famed TCL Chinese Theater and Hollywood Bowl. Visit the exclusive city of Beverly Hills, its iconic city sign and view select homes of Movie Stars. Then, cruise the famous Sunset Strip, Rodeo Drive, Melrose Avenue and visit Downtown Los Angeles, where you will see the Dorothy Chandler Pavilion, The Walt Disney Music Hall and other famous landmarks.

18:00 The driver will see us off to Crowne Plaza Los Angeles International Airport Hotel

(The final tour schedule will be adjusted according to some special reasons.)

Conference Venue

Crowne Plaza Los Angeles International Airport Hotel

http://www.cplosangeles.com/

Address: 5985 W. Century Blvd, Los Angeles, California 90045

Contact: 310-642-7500 Fax: 310-649-4035

Email: cp.losangelesreservations@ihg.com

Located less than one mile from the LAX terminals, the newly-renovated Crowne Plaza Los Angeles International Airport hotel offers a modern and refreshing hotel experience. Whether you are traveling for business or pleasure, our hotel offers a comfortable stay and friendly environment for working, meeting, dining and celebrating. Experience the LA lifestyle at our "Responsibly Green" contemporary hotel in Los Angeles, California

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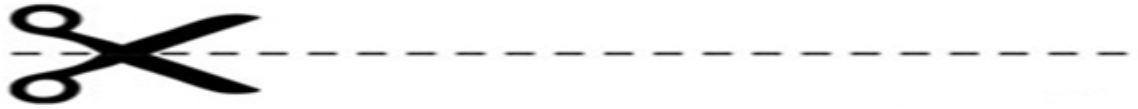

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Would you please list the top 3 to 5 universities in your city?	
Other Field of Interest	
Any Other Suggestions/Comments	

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