Conference Abstract

2017 2nd International Conference on Information and Network Technologies

(ICINT 2017)

2017 International Conference on Computational Biology

(ICOCB 2017)

May 24-26, 2017 Jakarta, Indonesia

Co-organized and Sponsored by



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Welcome Message from Organizing Committee

Dear Conference Delegates,

It is our great pleasure to invite you to join the 2017 2nd International Conference on Information and Network Technologies & 2017 International Conference on Computational Biology which are sponsored by JACN & IJBBB Editorial Boards. This event will provide a unique opportunity for editors and authors to get together and share their latest research findings and results. We look forward to welcoming you at Jakarta, Indonesia. We're confident that over the two days you'll get the theoretical grounding, practical knowledge, and personal contacts that will help you build long-term, profitable and sustainable communication among researchers and practitioners working in a wide variety of scientific areas with a common interest in information, network technologies, and computational biology.

On behalf of all the conference committees, we would like to thank all the authors as well as the technical program committee members and reviewers. Their high competence, their enthusiasm, their time and expertise knowledge, enabled us to prepare the high-quality final program and helped to make the conference become a successful event.

We truly hope you'll enjoy the conference and wish you a good trip in Jakarta!

Organizing Committee May 10, 2017

Conference Location and Directions



Holiday Inn Express Jakarta Pluit Citygate

https://www.ihg.com/holidayinnexpress/hotels/tw/zh/jakarta-utara/jktpc/hoteldetail Add: Emporium Pluit Mall 10th floor, Jl. Pluit Selatan Raya, Jakarta Utara 14440, Indonesia Tel +62 21 29602960 | E-mail: info.jktpc@ihg.com



Instructions for Oral & Poster Presentations

Oral Presentations

- **Time:** a maximum of 15 minutes in total, including speaking time and discussion. Please make sure your presentation is well timed. Please keep in mind that the program is full and that the speaker after you would like their allocated time available to them.
- You can use CD or USB flash drive (memory stick), make sure you scanned viruses in your own computer. Each speaker is required to meet her / his session chair in the corresponding session rooms 10 minutes before the session starts and copy the slide file (PPT or PDF) to the computer.
- It is suggested that you email a copy of your presentation to your personal in box as a backup. If for some reason the files can't be accessed from your flash drive, you will be able to download them to the computer from your email.
- Please note that each session room will be equipped with a LCD projector, screen, point device, microphone, and a laptop with general presentation software such as Microsoft Power Point and Adobe Reader. Please make sure that your files are compatible and readable with our operation system by using commonly used fronts and symbols. If you plan to use your own computer, please try the connection and make sure it works before your presentation.
- Movies: If your Power Point files contain movies please make sure that they are well formatted and connected to the main files.

Poster Presentations

- Maximum poster size is 36 inches wide by 48 inches high (3ft. ×4ft.)
- Posters are required to be condensed and attractive. The characters should be large enough so that they are visible from 1 meter apart.
- Please note that during your poster session, the author should stay by your poster paper to explain and discuss your paper with visiting delegates.

Dress code

• Please wear formal clothes or national characteristics of clothing.

Daily Schedule

May 24, 2017 (13:30-17:30)		
13:30pm-17:30pm	Arrival and Registration	Lobby
	May 25, 2017 (9:30-18:00)	
9:30am-9:40am	Opening Remark: Prof. Dwi Hendratmo Widyantoro School of Electrical Engineering and Informatics, Institut Teknologi Bandung, Indonesia	Plumpang Room
9:40am-10:20am	Plenary Speech I: Prof. Saman K. Halgamuge The Australian National University, Australia	Plumpang Room
10:20am-10:40am Group Photo & Coffee Break		
10:40am-11:20am	Plenary Speech II: Prof. Yoshifumi Manabe Faculty of Informatics, Kogakuin University, Tokyo, Japan	Plumpang Room
11:20am-12:00pm	Keynote Speech I: Prof. Dwi Hendratmo Widyantoro School of Electrical Engineering and Informatics, Institut Teknologi Bandung, Indonesia	Plumpang Room
12:00pm-13:30pm	Lunch	Great Room
13:30pm-16:00pm	Session 1: Computer and Information Engineering	Plumpang Room
16:00pm-16:30pm Coffee Break		
16:30pm-18:00pm	Session 2: Bioinformatics and Biometrics	Plumpang Room
18:00pm-19:30pm	Dinner	Great Room
May 25, 2017		
One Day Tour		

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

Keynote Speaker



Prof. Saman K. Halgamuge The Australian National University, Australia

Prof. Saman Halgamuge is the Director/Head, Research School of Engineering, Australian National University. He is elevated to IEEE Fellowship from January 2017. He has held appointments as Professor and Associate Dean International at the University of Melbourne. He graduated with Dipl.-Ing and PhD degrees in Data Engineering ("Datentechnik") from Technical University of Darmstadt, Germany. He has an outstanding research record in Data engineering, which includes Big Data Analytics and Optimization focusing on applications in Mechatronics, Energy and Bioengineering. He has been a frequently invited public speaker and delivered about 20 keynote speeches worldwide. He completed supervision of 32 PhD students and currently supervises a group of 15 PhD students. He is an Associate Editor of BMC Bioinformatics and IEEE Transactions on Circuits and Systems II: Express Letters and founding co-editor of Frontier's journal on Mechanical Engineering- Mechatronics section. He published over 250 research papers including a research book, 6 edited books, 20 book chapters, 100 journal articles, and over 130 refereed conference papers. He is a member of Australian Research Council (ARC) College of Experts panel for Engineering, Information and Computing Sciences. His publication profile is at http://scholar.google.com.au/citations?sortby=pubdate&hl=en&user=9cafqywAAAAJ&view_op=list_wo rks

Speech Title: Inferring Drug Interactions Using Data Analytics

Abstract: Repositioning of existing drugs as appropriate medication for previously not associated medical conditions can reduce the time, costs and risks of drug development by identifying new therapeutic effects. Investigating and understanding the interactions between drugs as well as how they work on our body is important in improving the effectiveness of clinical care. In the first part of the talk, recent studies on the interaction between drugs [1] and drug repositioning [2] are presented. A method based on Positive Unlabelled Learning and Growing Self Organising Maps is used on data available in

2017 the Annual Meeting of JACN & IJBBB Editorial Board

DrugBank database to infer drug-drug interactions. The proposed approach was able to infer 5892 drug pairs that are highly likely to interact with each other [1]. Subnetwork identification has already been used to simplify the visualization and interpretation of data in biological networks, but it has not been applied to drug repositioning. A new Physarum-inspired Prize-Collecting Steiner Tree algorithm is proposed to solve drug repositioning [2]. Drug Similarity Networks are generated using chemical, therapeutic, protein, and phenotype features of drugs and Anatomical Therapeutic Chemical classification [2].

In the second part, characterisation of drugs using Multi-Electrode Arrays (MEA) is discussed [3-4]. MEA is an extracellular recording technology that enables the analysis of networks of neurons in vitro. Neurons in culture exhibit a range of behavioral dynamics, which can be measured in terms of individual action potentials, network-wide synchronized firing and a host of other features that characterize network activity. MEA data analysis is used to differentiate between two types of antiepileptic drugs with different mechanisms of action.

Acknowledgement: Prof Karin Verspoor and Dr. Snezana Kuslijc of University of Melbourne and Prof Steve Petrou of Howard Florey Institute, current PhD students Dulini Mendis, Emma Morrisroe, Nusrath Hameed and Yahui Sun participated in the published research referred to in this talk. The funding organisation Australian Research Council and the PhD scholarships provided by University of Melbourne are also acknowledged.

The following research papers cover the content of the presentation: [1] PN Hameed, K Verspoor, S Kusljic, S Halgamuge, "Positive-Unlabeled Learning for inferring drug interactions based on heterogeneous attributes" BMC bioinformatics 18 (1), 2017 [2]] Y. Sun, PN. Hameed, K. Verspoor and S. K. Halgamuge, "A Physarum-inspired Prize-Collecting SteinerTree approach to identify subnetworks for drug repositioning", BMC Systems Biology, 2016. [3] D. C. Mendis, E. Morrisroe, S. Petrou, S.K. Halgamuge, "Use of adaptive network burst detection methods for multielectrode array data and the generation of artificial spike patterns for method of Neural 2016, 13(2):026009 evaluation", Journal Engineering, [4] D. C. Mendis, S. Petrou and S. K. Halgamuge, "Neuromechatronics with In-Vitro Microelectrode Arrays", C.W. de Silva, F. Khoshnoud, L. Maoqing and S. K Halgamuge (Editors), "Mechatronics: Fundamentals and Applications", Taylor & Francis, 2015.

Plenary Speakers



Prof. Yoshifumi Manabe Faculty of Informatics, Kogakuin University, Tokyo, Japan

Prof. Yoshifumi Manabe was born in 1960. He received his B.E., M.E., and Dr.E. degrees from Osaka University, Osaka, Japan, in 1983, 1985, and 1993, respectively. From 1985 to 2013, he worked for Nippon Telegraph and Telephone Corporation. From 2001 to 2013, he was a guest associate professor of Graduate School of Informatics, Kyoto University. Since 2013, he has been a professor of the Faculty of Informatics, Kogakuin University, Tokyo, Japan. His research interests include distributed algorithms, cryptography, game theory, and graph theory. Dr. Manabe is a member of ACM, IEEE, IEICE, IPSJ, and JSIAM.

Speech Title: Fair Allocation Problems

Abstract: Fair allocation problem is one of the most fundamental problems in economics, game theory, multi-agent systems, computer science, and our daily life. The problem definition is very simple. There is a good (or a set of goods) to be shared among a number of people. Find an allocation that is fair among the people. Though the problem is old and very simple, many researches have been done and the problem is still considered. There are two types of problems according to whether the good is divisible or not. This talk introduces old and new results on the fair allocation protocols and shows a new direction, online version, of the problem.



Prof. Dwi Hendratmo Widyantoro School of Electrical Engineering and Informatics, Institut Teknologi Bandung, Indonesia

Prof. Dwi H. Widyantoro is currently the Vice Dean of Academic Affairs at the School of Electrical Engineering & Informatics, Institute of Technology Bandung. He also serves as Chief Editor in the Journal of ICT Research and Application as well as Associate Editor in the International Journal of Electrical Engineering and Informatics. He received the MS and PhD degrees in computer science from Texas A&M University in 1999 and 2003, respectively. His research interests include machine learning, information summarization, information extraction, information classification as well as pattern recognition.

Speech Title: Summarization of Scientific Texts: Approaches, Challenges and Opportunities

Abstract: Keeping abreast of the state-of-the-art of research topics is a must for researchers who engage in frontier research and reading scientific papers could be a daunting task with current proliferation of scientific publication. Although reading abstracts may help resolve the problem, readers still need to read almost entire paper when they need to find out more detail information. An alternative solution that can be considered more effective is to provide readers with paper summary that still contains salient information such as described in an extended abstract. Transforming original paper into a shorter version such as extended abstract while retaining essential information belongs to the task of text summarization. This talk will discuss state-of-the art of research in summarization of scientific texts. It commences with overview of summarization research, briefly describing various approaches for text summarization including corpus-based, discourse-based and knowledge-based approaches. The talk then proceeds to rhetorical structure-based summarization. Finally, the grand challenge and opportunities in text summarization will be discussed.

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Oral Presentation Abstracts

Session 1: Computer and Information Engineering

Venue: Plumpang Room Chair: Prof. Yoshifumi Manabe Faculty of Informatics, Kogakuin University, Tokyo, Japan Time: 13:30pm-16:00pm

Note:

* Session photo will be taken at the end of the session.

* Copy PPT/PDF on conference laptop 10 minutes earlier before each session starts.

* For the best presentation of each session, it's encouraged to award it to student author prior.

* The certification of Oral/Poster presentation, listeners, will be awarded at the end of each session.

* To show respect to other authors, especially to encourage the student authors, we strongly suggest you attend the whole session, and the scheduled time for presentations might be changed due to unexpected situations, please come as early as you could.

NT016	Strategic Information System Planning Adoption, Objective, Process and Practice — A Review
Time:	Hisyam Harun and Mohd Khairuddin Hashim
13:30pm—13:45pm	Royal Malaysian Navy, Malaysia

Abstract: Strategic information system planning (SISP) is increasingly viewed as important to organizations. The literature however reveals that there seems to be disagreement concerning the best approach to adopt SISP in organizations. Moreover, the review of past studies suggests limited research that focuses on factors that influence the adoption in organization. Based on the literature and previous studies, this paper suggests that SISP be adopted based on its objective, process and practice.

	Implementation of Geographic Information System		
with Dijkstra Algorithm Base on Mobile Appli			
NT028	A Model for Disaster Risk Evacuation Route in		
Time:	Padang City Indonesia		
13:45pm-14:00pm			
	Ilham Eka Putra and Keukeu Rohendi		
	STMIK Indonesia Padang, West Sumatera, Indonesia		

Abstract: Padang is a coastal city, which is located opposite to the Indian Ocean. Just across Padang city there are areas of subduction, which can trigger a powerful earthquake and generate tsunami. Geologists have to say that the city of Padang is the area that is highly vulnerable to tsunamis in the near future. Several studies have been conducted to prepare Padang city for disaster. However, after conducting surveys and interviews with the Public Works Department City of Padang, most people didn't know the media for recommending the nearest disaster evacuation path. Evacuation is the most important method of saving people's lives. Disaster

evacuation is analyzed for a given travel time and a specific inundation area, coastal area citizens need to evacuate to a safe place as soon as disaster occur, the prime evacuation time is very critical for them. Smart phones have become a primary social communication device during interactions in emergencies. This paper outlines the design and development of a prototype geographical information system for examining the pathways evacuation and give recommendation information, and collective actions in emergency situations can be accessed anytime and anywhere, with a map of the location and route, that people can estimate travel time, and evacuate people immediately in to a safer place. The results of this paper clearly showed the applicability and potentiality of using GIS as a tool in path analysis.

Time: 14:00pm-14:15pm

Who is the English as a Second Language Speaker in this MOOC?

Gulustan Dogan, Ayse Saliha Sunar, Ismail Duru, and Su White *Yildiz Technical University, Turkey*

Abstract: Massive Open Online Courses have been widely used all over the world in recent years in entirely online learning context or as blended learning on campus. Most of these courses are offered in English. A high percentage of the users, however, are speaking English as a second language. Some of the authors of this paper who either used MOOCs for blended learning or a research subject are English as a second language speaker as well. They have observed whilst teaching students at university during blended teaching using MOOCs that the students struggle in courses offered in English. This has motivated us to explore this issue in MOOCs to contribute to the pedagogy of MOOCs. The main question that we consider is how can these platforms give a better experience to second language English speakers. There are many sub-problems of this big research question. In this paper we would like to briefly present our initial findings and give an overview of the research on this area.

	Hyper-spectral Estimation of Forest Leaf Area Index
	from Earth Observing 1 (EO-1) Hyperion Imagery
N/T/01/0	Based on Empirical–Statistical Approach and Grey
	Relational Analysis
Time:	
14:15pm-14:30pm	Zhaoming Zhang, Guojin He, Hao Yang, Tengfei Long, Guizhou Wang,
	Mengmeng Wang
	Institute of Remote Sensing and Digital Earth, Chinese Academy of
	Sciences, Beijing100094, China

Abstract: Leaf Area Index (LAI) is an important surface biophysical parameter as an input to many process-oriented ecosystem models. In the past two decades, much work has been done to estimate forest LAI using multi-spectral remotely sensed satellite imagery. However, LAI studies based on hyper-spectral satellite data are scarcely reported due to the difficulty to acquire high quality space-borne hyper-spectral data, especially in the rainy tropical and subtropical region. The aim of this paper is to perform LAI retrieval studies based on EO-1 Hyperion hyper-spectral

satellite imagery in Yongan city, Fujian province, located in the Asian subtropical monsoon climate region. Hyperion imagery acquired on May 22, 2012 was employed in this study. Ground LAI measurements were collected using the Plant Canopy Analyzer (PCA), LAI-2000 in July, 2012. The empirical–statistical approach was mainly performed, and different modeling parameters, including different kinds of vegetation indices and the same vegetation index constructed from different combinations of Near InfraRed (NIR) and red bands, were evaluated against ground based LAI measurements. Totally seven typical vegetation indices were employed in this study, including the Normalized Difference Vegetation Index (NDVI), Simple Ratio (SR), Soil Adjusted Vegetation Index (SAVI), Modified Simple Ratio (MSR), Perpendicular Vegetation Index (PVI), Global Environment Monitoring Index (GEMI), and Non-Linear Index (NLI). Grey Relational Analysis (GRA) was also utilized to determine the sensitivity of these typical vegetation indices to LAI. Performance of the different modeling parameters were comprehensively compared, and the result shows that MSR and SR, constructed with bands 53 and 30, are the best predictors for LAI estimation in this study area, with the highest R2 (coefficient of determination) value of 0.63.

	Short Term	Forecasting	of Global S	olar Irradiance by
NT026	K-Nearest	Neighbor	Multilayer	Backpropagation
Time:	Learning Ne	eural Networ	rk Algorithm	
14:30pm—14:45pm	Unit Three Kan National Taipei	r tini and Chao F <i>University of Te</i>	Rong Chen echnology, Taiwar	1

Abstract: The paper proposes based on meteorology data, especially for optimizing the operation of power generating electricity from photovoltaic energy. This paper proposes a novel methodology for very short term forecasting of hourly global solar irradiance (GSI). This methodology is a combination of k-nearest neighbor algorithm (k-NN) modelling and multilayer backpropagation learning neural network (BPLNN) model. The k-NN-multilayer BPLNN model is designed to forecast GSI for 1 hours ahead based on meteorology data for the target PV station which position is surrounded by eight other adjacent PV stations. The forecasting for global solar irradiance using k-NN-multilayer BPLNN modelling is a very powerful technique to determine the behaviour of time series data. The first method implements k-NN as a preprocessing technique prior to backpropagation learning method. The error statistical indicators of k-NN-multilayer BPLNN models used momentum (mc) = 0.8 the root-mean-square error (RMSE) is 176.5 W/m2. The models forecasts are then compared to measured data and validation results indicate that the k-NN-BPLNN based method presented in this study can estimate hourly GSI with satisfactory accuracy.

	Comparative Analysis of Cluster Optimization Using
NT029	Dynamic Mutation Genetic Algorithm and Particle
Time:	Swarm Optimization
14:45pm—15:00pm	Nur Suhailayani Suhaimi, Norazam Arbin , Nurul Zafirah Mokhtar, Zalinda Othman

Universiti Teknologi MARA (UiTM), Malaysia

Abstract: Dynamic data with multi-attribute parameters become very difficult to be optimized in a cluster nowadays. Optimizing the clustered data with certain fixed values could be an issue. Depending on the parameters and attributes of the data, the results yielded probably either stuck in local optima or bias by attributes pattern. Clustering is known as unsupervised learning usually leads to indirect knowledge discovery. The cluster detection algorithm searches for clusters of data which are similar to one another by using similarity measures based on its centroid. Performing Genetic Algorithm in the data cluster may increase the probability of the questions being clustered in the optimal group cluster. Performing Particle Swarm Optimization may exclude the Mutation operators but still can optimize without changing the gene too far from its origin. Dynamic Mutation in Genetic Algorithm used as repair mechanism to ensure the cluster is optimized enough and produce optimum indexed questions set while PSO without mutation is aimed to preserves the original gene of the offspring.

	k-NN	Decomposition	Artificial	Neural	Network
NT027	Models	for Global Solar	Irradiance	Forecast	ing Based
Time:	On Met	eorological Data			
15:00pm—15:15pm	Unit Thre National T	ee Kartini and Chao Ro Taipei University of Tech	ng Chen hnology, Taiwa	an	

Abstract: This paper proposes a novel methodology for forecasting of one hourly global solar irradiance (GSI). This methodology is a combination of k-NN decomposition method and artificial neural network (ANN) algorithm modelling. The k-NN Decomposition-ANN method is designed to forecast GSI for 60 min ahead based on meteorology data for the target PV station which position is surrounded by eight other adjacent PV stations. The novelty of this method is taking into account the meteorology data. A set of GSI measurement samples was available from the PV station in Taiwan which is used as test data. The first method implements k-NN Decomposition as a preprocessing technique prior to ANN method. The error statistical indicators of k-NN Decomposition-ANN model and the root-mean-square error (RMSE) is 20 W/m2. The models forecasts are then compared to measured data and simulation results indicate that the k-NN Decomposition-ANN-based model presented in this research can calculate hourly GSI with satisfactory accuracy.

	The Comparison of Forwarding Strategies Between
	The comparison of rotwarding strategies between
	Best route, Multicast, and Access on Named Data
NT033	Networking (NDN). Case Study: A Node
Time:	Compromised by The Prefix Hijack
15:15pm-15:30pm	
	Yunita Noor Rohmah, Dodi Wisaksono Sudiharto , Anton Herutomo <i>Telkom University, Indonesia</i>

Abstract: Named Data Networking (NDN) is a new design of network architecture which a NDN packet carries the Name of data. The NDN packet does not carry a source or a destination address like an IP address. In a network routing, a NDN network has an adaptive forwarding mechanism. A NDN router determines packets immediately which pass through the router by assigning the pending Interest and observe the Data which are sent. Each NDN router can measure a forwarding plane performance of each path. These information can be used to select the best path which is available, to detect and to recover forwarding problems which can be caused by a physical failure or a malicious attack, including a hijack attack. The NDN network has several forwarding strategies which can be used for forwarding its packets. Three of them are the best route, the multicast, and the access. This study is going to perform a comparison between those three forwarding strategies while there is a hijack attack on a node of the NDN network.

NT041	Electr	ric En	ergy Cons	sumption	of Bang	g-ban	g System
	and P	ID Co	ntrol for W	Viper System	em of Ele	ectric	c City Car
Time: 15:30pm-15:45pm	Nur Tauviqi <i>Dipone</i> s	Akhlis irrahman <i>goro Un</i>	Sarihidaya iversity, Indon	Laksana , nesia	Munadi,	and	Mohammad

Abstract: The technology developments in automotive are so fast. One of the supporting component in automotive is wiper system that acts as a cleaning water on the windscreen and the rear of the car. To give more convenience of drivers, the automatic wiper system is developed. The bang-bang system and the PID controller are simulated and applied to determine the response system and the level of energy consumption. In this work, the developed wiper system is installed in electric cars, in which the energy source comes from the battery. The results of the comparison between the simulation and application of bang-bang system and PID controller in terms of the response system. The results indicate that the PID controller provides better response system and level of energy consumption compared to the bang-bang system, in which it is currently applied in most cars.

NT2003-A	Comparative Study of Classification Algorithms and Its Feature
Time:	Pushpa M. and Swarnamageshwari M.
15:45pm—16:00pm	VLB Janakiammal College of Arts and Science, India

Abstract: Classification is used to map and find out in which group each data instance is related within a given dataset. It is used for classifying data into different classes according to some constrains. Several major kinds of classification algorithms including C4.5, ID3, k-nearest neighbor classifier, Naive Bayes, SVM, and ANN are used for classification. Generally a classification technique follows three approaches Statistical, Machine Learning and Neural Network for classification. While considering these approaches this paper provides an inclusive survey of different classification algorithms and their features and limitations

Session 2: Bioinformatics and Biometrics

Venue: Plumpang Room Chair: Prof. Saman K. Halgamuge The Australian National University, Australia Time: 16:30pm-18:00pm

Note:

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NT047	A Colour Space Based Detection for Cervical Cancer
Time:	Using Fuzzy C-Means Clustering
16:30pm—16:45pm	Indrabayu, Andi Rezky Fatmasari , Ingrid Nurtanio Hasanudin University, Indonesia

Abstract: This research presents a colour segmentation method using Hue, Saturation, Value (HSV) colour space based on fuzzy c-means clustering (FCM) to segment nucleus from single cell Pap smear images. Nucleus is a structural part of cell which can indicate whether a cell is normal or abnormal. This research aims to analyze the performance of colour space in the segmentation process. Pap smear images were segmented in HSV colour space by using fuzzy c-means clustering technique. Compared with segmentation process directly on HSV channel, the segmentation of each channel in space H, S and V were proposed. The segmentation results on each channel that has been applied roundness detection subsequently merged as the final segmentation and labeled as a nucleus. This research used 70 single cell Pap smear images taken in harlev dataset to examine the proposed segmentation method. The calculation of segmentation performance used the measurement based on precision, recall, and Zijdenbox Similarity Index (ZSI). The result showed that the proposed method generated precision, recall, and ZSI by 93%, 94%, and 93%.

СВ001-А	Analysis of Non-coding Mutation in Human Cancers
Time:	Yosvany L ópez
16:45pm—17:00pm	Tokyo Medical and Dental University, Japan

Abstract: Cancer is a widespread disease which primarily develops as a consequence of somatic mutations in the genome sequence. These variations can either activate oncogenes or inhibit tumor suppressor genes. Although a plethora of studies have focused on detecting coding mutations, protein-coding regions account for less than 2% of the human genome. Therefore, there has recently been a growing interest in understanding the binding mechanism of transcription factors to mutated non-coding regions. In this work, we survey a large collection of

2,372 human transcription factor binding profiles and report those factors whose binding sites appeared to be highly mutated in 13 different human cancers. The collection of transcription factor profiles was retrieved from three well-known databases (UniPROBE, JASPAR and TRANSFAC) and integrated with non-coding mutation data from the Catalogue of Somatic Mutations in Cancer (COSMIC) repository. Afterwards, we calculated the mutation level of binding sites and for each tumor we were able to obtain sets of highly mutated transcription factor profiles, which indicated a certain degree of binding variability among cancer conditions. For instance, we found that several members of the specificity protein (SP) and Krüppel-like factor family seemed to bind heavily mutated sites in the studied cancers, one finding that has been previously backed by reports on their involvement in cell growth and tumor progression. In conclusion, this analysis shows that some transcription factors bind to highly mutated sites with clear differences across human cancers. Future studies should also assess the effects of mutated transcription factors to few important ones, depending on the cancer condition under study.

CB002	High Accuracy Basecalls in Nanopore Sequencing
Time: 17:00pm—17:15pm	Philippe Faucon , Robert P. Trevino, Parithi Balachandran, Kylie Standage-Beier and Xiao Wang <i>Arizona State University, USA</i>

Abstract: Nanopore sequencing has introduced the ability to sequence long stretches of DNA, enabling the resolution of repeating segments, or paired SNPs across long stretches of DNA. Unfortunately significant error rates >15%, introduced through systematic and random noise inhibit downstream analysis. We propose a novel method, using unsupervised learning, to correct biologically amplified reads before downstream analysis proceeds. We also demonstrate that our method has performance comparable to existing techniques without limiting the detection of repeats, or the length of the input sequence.

	Evaluation of the Black Cumin Seed Oil Role (BCSO)
	on a Decline in Endothelial eNOS Expression and
	Plasma NO Levels in Mice SD (Sprague Dawley)
CB003	Induced Dimethyl Benzantracene: Initial Studies
Time	Chemopreventive BCSO for Lung Cancer
17:15pm—17:30pm	
	Titlek Hidayati , Akrom, Indrayanti, Sagiran
	Department of Epidemiology, Community and Family Medicine, Medical
	and Health Science Equilar University Muhammadiyah Vecuskarta
	ana Health Science Faculty, Universitas Munammaalyan Togyakarta,
	Indonesia

Abstract: BCSO is effective as an anti-aging agent in cultures of endothelial and macrophage exposed 7.12, dimethyl-benzantracene (DMBA). Reactive radicals damage endothelial tissue, cause inflammatory reactions and have a role in carcinogenesis. Excessive eNOS expression linked to chronic inflammation and carcinogenesis of lung cancer. The research objective was to

determine the effect of BCSO on the expression of eNOS and NO levels of macrophage SD rats exposed DMBA.

A study used 36 rats SD that divided into 6 groups, given BCSO (0,01, 0,05 and 0.1 ml / day), positive, negative and normal control. Variables were serum levels of NO and eNOS expression in endothelial tissue.

The results showed that eNOS expression in DMBA group is higher than the normal group (P <0.05). BCSO will decrease eNOS expression and NO levels. ENOS expression and NO levels in group BCSO 0,01 and 0,05 ml / kg body weight / day lower than the DMBA group (p <0.05), and similar to the normal group (P> 0.05). Conclusion: a dose BCSO can degrade endothelial eNOS expression and NO levels of macrophage culture supernatant SD rat DMBA induced.

NT048	Modification on Brightness Enhancement for Simple Thresholding in Eyelid Area Measurement
Time:	Indrabayu, Rina Anriani Tacok , Intan Sari Areni
17:30pm—17:45pm	Hasanuddin University, Indonesia

Abstract: This study aims to calculate eyelid area to classify eye condition become awake or drowsy as the initial stage of a drowsiness detection system. This work used 40x95 matrix of 500 single eye images from 4 respondents. The input image will be processed into brightness enhancement, grayscaling, thresholding and eyelid area measurement. The problem of thresholding process was to determine the optimal threshold value that can be used on images with different intensities. Brightness enhancement modification is proposed to equalize the intensity histogram value of the input image based on the reference image. Threshold value based on this modification can be used as optimal threshold value. With this optimal threshold value, the eye condition classification results show that average accuracy achieved 93.5%.

NT050	Classification of Flower Plant Diseases by Using Matlab Image Processing and Rule Based Technique
Time:	Nur Suhailayani Suhaimi, 'Arifah Diyana Ahmad Rubaa'i
17:45pm-18:00pm	Universiti Teknologi MARA (UiTM), Malaysia

Abstract: This research conducted to classify flower plant diseases by implementing Rule Based technique. There were several types of flower plants and diseases were conducted for this research; which have six types of flower plants and seven types of diseases. Orchid, Hibiscus, Sunflower, Roses, Daylily and Jasmine were the six types of flower plant while black spot, insects, leaf spot, mildew, microorganism, rust and sooty mold were the diseases that are covered in this research. The data were taken from Rumpun Damai Nursery and also from the articles. Currently, the management of the nursery to detect flower plant diseases infected are unorganized because of lack of knowledge regarding the flower plant diseases. Therefore, in order to solved those problem, the objective have been identified that lead to the conducting of this research. This classification system can help the gardener to identify flower plant diseases easier. In order to apply Rule Based technique in this research, the data regarding the flower plants and diseases need to gathered first and undergo preprocessing method. The picture taken

of flower plants that infected to diseases from the Nursery also undergo the image processing method by using Matlab tools to identify the symptoms attribute. This system applied Waterfall Model methodology as the framework to supervise all the process. The result of this research was a prototype system that can identified the diseases been infected by the flower plants with the list of symptoms showed the diseases.

Poster Presentation Abstracts

Venue: Plumpang Room

Note:

* Session photo will be taken at the end of the session.

* Copy PPT/PDF on conference laptop 10 minutes earlier before each session starts.

* For the best presentation of each session, it's encouraged to award it to student author prior.

* The certification of Oral/Poster presentation, listeners, will be awarded at the end of each session.

* To show respect to other authors, especially to encourage the student authors, we strongly suggest you

attend the whole session, and the scheduled time for presentations might be changed due to unexpected situations, please come as early as you could.

CB006	Network Analysis of miRNA and Protein Expression Profiles of Breast Cancer
	Yang Zhang, Cong Weihui, Dehua Wang and Yi Zhao

Abstract: miRNA and protein are key regulators of gene expression, but their roles lead to tumor initiation and progression are not very well characterized. To better understand their dynamics in a systematic approach, this paper employs network analysis method to investigate their molecular activity and network-wide function in breast cancer patients. Random forest model has been used for filtering and wrapping miRNAs and proteins expression profiles from breast cancer patients'normal and tumor tissues. Maximal Information Coefficient of every two miRNAs is used as distance of two nodes in the network. Comparing the miRNAs network from normal tissue and tumor tissue, 10 nodes in two networks are selected respectively based on the differences in distance. Namely, hsa-mir-101-2, hsa-mir-10b, hsa-mir-130b, hsa-mir-190b, hsa-mir-193a, hsa-mir-204, hsa-mir-28, hsa-mir-365-2, hsa-mir-375, hsa-mir-192, including eight miRNAs are highly related with breast cancer. It is supposed that unverified miRNA might also be associated with the progression of breast cancer. This novel method will yield deep insight into the regulatory architecture of breast cancer initiation and progression.

	A Study of The Subsequent Focus and Travel
	Intention of China Wenchuan Earthquake Heritage
NT012	Sites of Provincial Residents
	Zuoming Jiang College of History and Society, Huaibei Normal University, Huaibei 235000, P.R. China

Abstract: At present, fewer scholars pay close attention to earthquake heritage sites's subsequent potential tourist market development, this paper select Wenchuan earthquake heritage site related important events as the object of attention from 2008 to 2015 year, using spss17.0 to statistical analysis 804 questionnaires of provincial residents, research on the subsequent focus and travel intention of Wenchuan earthquake heritage sites of provincial

residents. The study found that: four subsequent focus dimensions of earthquake heritage sites include planning development and festival exhibition, Sichuan tourism marketing, postearthquake recovery and reconstruction, earthquake memorial and geological disasters; different demographic characteristics of the residents has significant differences in four subsequent focus dimensions; before the earthquake to experience has no significant differences in four subsequent focus dimensions, after the earthquake to experience has only significant difference in planning development and festival exhibition dimensions; travel intention has a weak correlation with four subsequent focus dimensions and previous experience. This study provides suggestions for the development of Wenchuan earthquake heritage tourism, provide demonstration and reference for other areas of the earthquake heritage tourism at home and abroad.

Listeners

Note:

* Session photo will be taken at the end of the session.

* The certification of Oral/Poster presentation, listeners, will be awarded at the end of each session.

* To show respect to other authors, especially to encourage the student authors, we strongly suggest you attend the whole session, and the scheduled time for presentations might be changed due to unexpected situations, please come as early as you could.

Keiko Shimazu	
Listener 1	
	Advanced Institute of Industrial Technology, Japan

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One-Day Tour

Chaotic, crowded, and cosmopolitan, Jakarta, the capital of Indonesia, is a city of contrasts. Home to millions of people from around the world, the city is a mixture of languages and cultures, poverty and wealth. The city boasts some of the best nightlife in Asia and some of the worst traffic. Every holiday, the locals escape the pollution and the crowds to enjoy relaxing diversions like Ancol Dreamland, an amusement area featuring water parks, beaches, golf courses, and a SeaWorld.



Recommended Itinerary

Time	Tour Itinerary
9:00 am-10:30 am	Taman mini/ Beautiful Indonesia Miniature Park
11:00 am-12:00 pm	Medan Merdeka
12:30 pm-13:30 pm	Mesjid Istiqlal
13:30 pm-14:00 pm	Jakarta Cathedral
14:30 pm-16:00 pm	National Museum
16:00 pm-20:00 pm	Jakarta Old Town

