

# Program of ICS 2012 (By Workshop)

## Program of Keynote Speeches

**Date: Wednesday, 12 Dec. 2012**

**Room: 2F A.B Lecture Hall**

**Time: 09:30~10:30 am**

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Chair: **Prof. Sheng-Lung Peng**, National Dong Hwa University, Taiwan

Speaker: **Prof. Fedor V. Fomin**, University of Bergen, Norway

Title: Kernelization Algorithms

Abstract: Preprocessing or data reductions means reducing the input to something simpler by solving an easy part of the input and this is the type of algorithms used in almost every application. In spite of wide practical applications of preprocessing, a systematic theoretical study of such algorithms remains elusive. The framework of parameterized complexity can be used as an approach to analyse preprocessing algorithms. Input to parameterized algorithms include a parameter (in addition to the input) which is likely to be small, and this resulted in a study of preprocessing algorithms that reduce the size of the input to a pure function of the parameter (independent of the input size). Such type of preprocessing algorithms are called kernelization algorithms. In the talk we discuss some classical and new trends in the design of kernelization algorithms.

**Time: 10:30~11:30 am**

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Chair: **Prof. Ruay-Shiung Chang**, National Dong Hwa University, Taiwan

Speaker: **Mr. Michael Wang**, Enterprise Architect, Oracle, USA

Title: A Mobile, Cloud, and Social-enabled Future

Abstract: During the presentation, I would like to share with all the audience the observations, factors driving new innovations that may change how people interact with technologies and how organizations operate, and update what Oracle is undertaking for those upcoming future.

**Date: Thursday, 13 Dec. 2012**

**Room: 2F A.B Lecture Hall**

**Time: 09:30~10:30 am**

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Chair: **Prof. Ching-Nung Yang**, National Dong Hwa University, Taiwan

Speaker: **Prof. L. Harn**, University of Missouri-Kansas City, USA

Title: Secret Sharing and Its Applications

Abstract: Secret sharing was first proposed in 1979 by Shamir and Blakley separately. Secret sharing has become a very important cryptographic tool used in multi-party computing, e-voting, distributed computing, etc. In this talk, I will outline new research problems and solutions when secret reconstruction is performed in asynchronous channels. It will include rational secret sharing, secure secret reconstruction, multi-secret sharing, cheater detection and identification. In addition, new applications using secret

sharing to support secure group communication, secure multicast transmission will also be addressed.

**Time: 10:30~11:30 am**

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Chair: **Prof. Ruay-Shiung Chang**, National Dong Hwa University, Taiwan

Speaker: **Prof. C.-C. Jay Kuo**, University of Southern California, USA

Title: Depth-Assisted Intelligent Video

Abstract: Intelligent video, including video understanding, indexing and retrieval, is a very challenging computer vision problem and a good application candidate of cloud computing. When a scene is captured by a single camera, the 3D world space is projected to a 2D image space. A significant amount of information is lost during the projection process. There is a recent trend to put more emphasis on acquiring the depth information so as to simplify the video processing and understanding tasks. The depth information can be obtained by a depth camera, a stereo camera or some depth-inference algorithms. These are very hot topics due to the popularity of the Microsoft Kinetic and the emergence of 3D video contents such as 3D movies and 3DTV. In this talk, I will give an overview talk on the usefulness of the depth information in several video analysis problems and future research opportunities and challenges.

## **Workshop on Algorithm, Bioinformatics, and Computation Theory**

**Date: Friday, 14 Dec. 2012**

**Room: 3F 308.309**

**Session: Graph Theory and Algorithms (09:30~11:30 am)**

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Chair: **Prof. Lih-Hsing Hsu**, Providence University

- 1163 An Upper Bound of the Rainbow Connection Number in RTCC Pyramids  
*Fu-Hsing Wang, Ze-Jian Wu, and Yann-Jong Hwang*
- 1054 On the Hamiltonian-Connectedness for Graphs Satisfying Ore's Theorem  
*Shin-Shin Kao, Yuan-Kang Shih, and Hsun Su*
- 1057 On Total Covers of Block-Cactus Graphs  
*Yu-Ting Li, Jia-Jie Liu, and Yue-Li Wang*
- 1037 Randomized Self-Stabilization under Distributed Daemon for 6-Coloring Planar Graph  
*Chi-Hung Tzeng, Jehn-Ruey Jiang, Shing-Tsaan Huang, and Cheng-Feng Yeh*
- 1042 An  $O^*(1.4786n)$ -Time Algorithm for the Maximum Induced Matching Problem  
*Maw-Shang Chang, Ling-Ju Hung, and Chau-An Miao*
- 1175 The Longest Path Problem on Distance-Hereditary Graphs  
*Yi-Lu Guo, Chin-Wen Ho, and Ming-Tat Ko*
- 1208 Characterizing and Recognizing Probe Block Graphs  
*Van Bang Le and Sheng-Lung Peng*

**Session: Graph Theory and Bioinformatics (1:00~2:30 pm)**

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Chair: **Prof. Yue-Li Wang**, National Taiwan University of Science and Technology

- 1128 2-Rainbow Domination and Its Practical Variation on Weighted Graphs  
*Chung-Kung Yen*

- 1028 Balancing a Complete Signed Graph by Editing Edges and Deleting Nodes  
*Bang Ye Wu and Jia-Fen Chen*
- 1095 A New Filtration Method and a Hybrid Strategy for Approximate String Matching  
*Chia-Wei Lu, Chin-Lung Lu, and R. C. T. Lee*
- 1134 A Novel Approximation Algorithm for Minimum Geometric Disk Cover Problem with Hexagon Tessellation  
*Chi-Chang Chen, Chi-Yu Chang, and Cheng-Chun Liu*
- 1053 Protein Structure Comparison and Visualization Tools on Cloud Platform  
*Yaw-Ling Lin, Chen-En Hsieh, Guan-Jie Hua, and Che-Lun Hung*

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**Session: Interconnection Networks and Combinatorial Algorithms (2:45~4:15 pm)**

Chair: **Prof. Y-Chuang Chen**, Minghsin University of Science and Technology

- 1080 Ranking and Unranking Algorithms for Loopless Generation of Non-Regular Trees  
*Ro-Yu Wu, Jou-Ming Chang, An-Hang Chen, and Ming-Tat Ko*
- 1081 Completely Independent Spanning Trees on Complete Graphs, Complete Bipartite Graphs and Complete Tripartite Graphs  
*Kung-Jui Pai, Shyue-Ming Tang, Jou-Ming Chang, and Jinn Shyong Yang*
- 1046 On the Min-Max 2-Cluster Editing Problem  
*Li-Hsuan Chen, Maw-Shang Chang, Chun-Chieh Wang, and Bang Ye Wu*
- 1127 Spatial Query Processing on Distributed Databases  
*Jiun-Wen Bai, Jun-Zhe Wang, and Jiun-Long Huang*
- 1027 Internally Disjoint Paths in a Variant of the Hypercube  
*Tsung-Han Tsai, Y-Chuang Chen, and Jimmy J.M. Tan*

**Workshop on Artificial Intelligence and Fuzzy Systems**

**Workshop on Database, Data Mining, and Information Retrieval**

**Date: Wednesday, 12 Dec. 2012**

**Room: 3F 315.316.317**

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**Session: Database and Data Mining (1:00~2:30 pm)**

Chair: **Prof. Arbee L.P. Chen**, National Cheng-chi University, Taiwan

- 1150 A Hybrid Prediction Algorithm for Traffic Speed Prediction  
*Bo-Wei Huang, Kun-Wei Wang, Ling-Yin Wei, and Wen-Chih Peng*
- 1149 Finding Leaders with Maximum Spread of Influence through Social Networks  
*Tsung An Yeh, En Tzu Wang, and Arbee L.P. Chen*
- 1029 Path Tree: Mining Sequential Patterns Efficiently in Data Streams Environments  
*Guanling Lee, Kuo-Che Hung, and Yi-Chun Chen*
- 1088 Feature Reduction and Selection for Automatic Image Annotation  
*Guan-Bin Chen and Been-Chian Chien*

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**Session: Data Mining and Evolutionary Computing (2:45~4:15 pm)**

Chair: **Prof. Han-Ying Kao**, National Dong Hwa University, Taiwan

- 1062 Genetic-evolved Bayesian networks in a biomedical application  
*Chih-Chiang Wei*
- 1206 A Discriminative Multi-Objective Programming Method for Solving Network DEA  
*Han-Ying Kao and Chieh-Yu Chan*
- 1199 Mining High Utility Itemsets Based on the Pre-large Concept  
*Chun-Wei Lin, Tzung-Pei Hong, Guo-Cheng Lan, Jia-Wei Wong,  
and Wen-Yang Lin*
- 1033 Maximum Likelihood DOA Estimation with Sensor Position Perturbation Using Particle  
Swarm Optimization  
*Jhieh-Chung Chang and Chia-Yi Chen*

**Session: Computer Games (4:30~6:00 pm)**

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Chair: **Prof. Shi-Jim Yen**, National Dong Hwa University, Taiwan

- 1008 A New GPS Position Correction Method Based on Genetic Programming  
*Jung-Yi Lin, Ming-Chih Tung, Chia-Hui Chang, Chao-Chung Liu,  
and Ju-Fu Peng*
- 1082 Optimistic Heuristics for MineSweeper  
*Olivier Buffet, Chang-Shing Lee, Woan-Tyng Lin, and Olivier Teytaud*
- 1092 Learning a Move-Generator for Upper Confidence Trees  
*Adrien Couetoux, Olivier Teytaud, and Hassen Doghmen*
- 1118 Software Framework for Generic Game Development in CGDG  
*Hao-Yun Liu, I-Chen Wu, Hao-Hua Kang, Ting-Fu Liao, and  
Lung-Pin Chen*
- 1130 The Art of the Chinese Dark Chess Program DIABLE  
*Shi-Jim Yen, Cheng-Wei Chou, Jr-Chang Chen, I-Chen Wu, and  
Kuo-Yuan Kao*

**Workshop on Computer Architecture, Embedded Systems, SoC, and VLSI/EDA**

**Date: Thursday, 13 Dec. 2012**

**Room: 3F 315.316.317**

**Session: Computer Architecture and Embedded Systems (4:30~6:00 pm)**

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Chair: **Prof. Shyue-Ming Tang**, National Defense University, Taiwan

- 1051 On the Variants of Tagged Geometric History Length Branch Predictors  
*Yeong-Chang Maa and Mao-Hsu Yen*
- 1147 Hardware Acceleration Design for Embedded Operating System Scheduling  
*Jian-He Liao, Jer-Min Jou, Cheng-Hung Hsieh, and Ding-Yuan Lin*
- 1148 A Distributed Run-Time Dynamic Data Manager for Multi-core System Parallel Execution  
*Wen-Hsien Chang, Jer-Min Jou, Cheng-Hung Hsieh, and Ding-Yuan Lin*
- 1156 Design of a Dynamic Parallel Execution Architecture for Multi-Core Systems  
*Shiang Huang, Jer-Min Jou, Cheng-Hung Hsieh, and Ding-Yuan Lin*
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**Room: 3F 308.309**

**Session: VLSI Design and Digital Signal Processing (4:30~6:00 pm)**

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Chair: **Prof. Shun-Wen Cheng**, Far East University, Taiwan

- 1063 Energy-Aware Compiler Optimization for VLIW-DSP Cores  
*Yung-Cheng Ma, Tse-An Liu, and Wen-Shih Chao*
- 1067 A Multiplier-Free Noise Trapped Touch Algorithm for Low Cost 4x4 Matrix Panel Design  
*Yu-Hsaing Yu, Qi-Wen Wang, and Tsung-Ying Sun*
- 1160 A Novel Defragmentable Memory Allocating Schema for MMU-less Embedded System  
*Yu-Hsaing Yu, Jing-Zhong Wang, and Tsung-Ying Sun*
- 1100 Asynchronous Ring Network Mechanism with A Fair Arbitration Strategy for Network on Chip  
*Jih-Ching Chiu, Kai-Ming Yang, and Chen-Ang Wong*
- 1203 High-Performance 128-bit Comparator Based on Conditional Carry-Select Scheme  
*Shun-Wen Cheng, Jhen-Yuan Li, and Wei-Chi Chen*

**Workshop on Computer Networks and Web Service/Technologies**  
**Workshop on Parallel, Peer-to-Peer, Distributed, and Cloud Computing**

**Date: Wednesday, 12 Dec. 2012**

**Room: 3F 308.309**

**Session: Opening and Keynote (1:00~1:45 pm)**

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Chair: **Prof. Der-Jiunn Deng**, National Changhua University of Education

Speaker: **Prof. Chunming Rong**

Title: **Cloud Security and Service Accountability**

Abstract: Cloud Computing makes data truly mobile and a user can simply access a chosen cloud with any internet accessible device. In Cloud Computing, IT-related capabilities are provided as services, accessible without requiring detailed knowledge of the underlying technology. Thus, many mature technologies are used as components in Cloud Computing, but still there are many unresolved and open problems. Security in the cloud domain is considered as one of the top challenges. Cloud and IT service providers should be responsible for the data of their customers and users. However, accountability frameworks for distributed IT services is current still absent and makes it difficult for users to understand, influence and determine how their service providers honor their obligations. In the proposed EU A4Cloud project, we will create solutions to support users in deciding and tracking how their data is used by cloud service providers. By combining methods of risk analysis, policy enforcement, monitoring and compliance auditing with tailored IT mechanisms for security, assurance and redress.

**Session: Cloud Computing and Overlay Network (1:45~2:30 pm)**

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Chair: **Prof. Ming-Huang Guo**, Shih-Hsin University

- 1013 Dynamic Load Balancing in Cloud-based Multimedia System Using Genetic Algorithm  
*Chun-Cheng Lin and Der-Jiunn Deng*
- 1075 Platform-as-a-Service Architecture for Parallel Video Analysis in Clouds  
*Tse-Shih Chen, Tsiao-Wen Huang, Liang-Chun Yin, Yi-Ling Chen,*

*and Yi-Fu Ciou*

- 1098 Construct Independent Spanning Trees on Chordal Rings with Multiple Chords  
*Shyue-Ming Tang*

**Session: Computer Networks and Web Service/Technologies (2:45~4:15 pm)**

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Chair: **Prof. Yeong-Sheng Chen**, National Taipei University of Education

- 1058 Cross-Layer-based Adaptive TCP Algorithm in 4G Packet Service LTE-Advanced Relaying Communications

*Ben-Jye Chang and Yi-Hsuan Li*

- 1065 A System of Publishing and Managing Contents in Multiple Web2.0 Websites

*Jyun-Kai Huang, Shyan-Ming Yuan, Hung-Yu Chen, and Yuan Chang*

- 1085 An Info-based Content Sharing System for Small Communities

*Yuan-Liang Tai, Shang-Rong Tsai, Cheng-Kang Wen, Kuo-Feng Ssu, and Y. S. Huang*

- 1108 Hierarchical Deficit Round-Robin Packet Scheduling Algorithm

*Min-Xiou Chen and Shih-Hao Liu*

- 1184 IP Address Exchanging Scheme for Vehicle Ad hoc Networks

*Chiu-Ching Tuan and Yi-Chao Wu*

- 1187 A Web Service Selection Mechanism based on User Ratings and Collaborative Filtering

*Chin-Chih Chang and Chu-Yen Kuo*

**Session: Parallel, Peer-to-peer, and Distributed Computing (4:30~6:00 pm)**

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Chair: **Prof. Chun-Cheng Lin**, National Chiao Tung University

- 1003 Correctness of Self-stabilizing Algorithms under the Dolev Model When Adapted to Composite Atomicity Models

*Chih-Yuan Chen, Cheng-Pin Wang, Tetz C. Huang, and Ji-Cherng Lin*

- 1034 Efficiently Extracting Change Data from Column Oriented NoSQL Database

*Yong Hu and Weiping Qu*

- 1083 Energy-Efficient Scheduling Based on Reducing Resource Contention for Multi-Core Processors

*Yan-Wei Chen, Mei-Ling Chiang, and Chieh-Jui Yang*

- 1091 Efficient Parallel Knuth-Morris-Pratt Algorithm for Multi-GPUs with CUDA

*Kuan-Ju Lin, Yi-Hsuan Huang, and Chun-Yuan Lin*

- 1167 Approaches for Data Synchronization on Mobile Peer-to-Peer Networks

*Chuan-Chi Lai and Chuan-Ming Liu*

- 1168 Effective Processor Allocation for Moldable Jobs with Application Speedup Model

*Kuo-Chan Huang, Tse-Chi Huang, Yuan-Hsin Tung, and Pin-Zei Shih*

## Workshop on Cryptography and Information Security

Date: Thursday, 13 Dec. 2012

Room: 3F 305.306.307

Session: Authentication (1:00~2:30 pm)

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Chair: **Prof. Raylin Tso**, National Chengchi University, Taiwan

- 1005 A Secure ECC-based RFID Authentication Scheme Using Hybrid Protocols  
*Yi-Pin Liao and Chih-Ming Hsiao*
- 1007 A Dynamic Approach to Hash-Based Privacy-Preserving RFID Protocols  
*Chih-Yuan Lee, Hsin-Lung Wu, and Jen-Chun Chang*
- 1117 Deniable Authentication Protocols with Confidentiality and Anonymous Fair Protections  
*Shin-Jia Hwang, Yun-Hao Sung, and Jen-Fu Chi*
- 1122 A Novel Authentication Scheme Based on Torus Automorphism for Smart Card  
*Chin-Chen Chang, Qian Mao, and Hsiao-Ling Wu*

Session: Cheater Detection, Cryptanalysis, and Communication Security (2:45~4:15 pm)

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Chair: **Prof. Wei-Bin Lee**, Feng Chia University, Taiwan

- 1011 An Extension of Harn-Lin's Cheater Detection and Identification  
*Lein Harn and Changlu Lin*
- 1025 Cryptanalysis on User Authentication Scheme with Anonymity  
*Yung-Cheng Lee*
- 1139 Cryptanalysis of a Provably Secure Certificateless Short Signature Scheme  
*Yu-Chi Chen, Raylin Tso, and Gwoboa Horng*
- 1159 Controlled Quantum Secure Direct Communication based on Single Photons  
*Wei-Lin Chang, Fang-Jhu Lin, Guo-Jyun Zeng, and Yao-Hsin Chou*

Session: Intrusion Detection and Prevention (4:30~6:00 pm)

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Chair: **Prof. Chia-Mei Chen**, National Sun Yat-Sen University, Taiwan

- 1006 Impact of Identifier-Locator Split Mechanism on DDoS Attacks  
*Ying Liu, Jianqiang Tang, and Hongke Zhang*
- 1045 Detecting Web-Based Botnet with Fast-flux Domain  
*Chia-Mei Chen, Ming-Zong Huang, and Ya-Hui Ou*
- 1090 Improvements of Attack-Defense Trees for Threat Analysis  
*Ping Wang and Jia-Chi Liu*
- 1094 Design and Implementation of a Linux Kernel Based Intrusion Prevention System in Gigabit Network Using Commodity Hardware  
*Li-Chi Feng, Chao-Wei Huang, and Jian-Kai Wang*
- 1115 Performance Evaluation on Permission-Based Detection for Android Malware  
*Chun-Ying Huang, Yi-Ting Tsai, and Chung-Han Hsu*

**Room: 3F 315.316.317**

**Session: Steganography, Data Hiding, and Watermarking (1:00~2:30 pm)**

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Chair: **Prof. Wei-Jen Wang**, National Central University, Taiwan

- 1096 Image Steganography Using Gradient Adjacent Prediction in Side-Match Vector Quantization  
*Shiau-Rung Tsui, Cheng-Ta Huang, and Wei-Jen Wang*
- 1113 A Data Hiding Scheme based on Square Formula Fully Exploiting Modification Directions  
*Wen-Chung Kuo*
- 1132 Digital Watermarking Based on JND Model and QR Code Features  
*Hsi-Chieh Lee, Chang-Ru Dong, and Tzu-Miao Lin*
- 1135 Multi-Dimensional and Multi-Level Histogram-Shifting-Imitated Reversible Data Hiding Scheme  
*Zhi-Hui Wang, Chin-Chen Chang, Ming-Li Li, and Shi-Yu Cui*

**Session: Server Security, Security Auditing, and Secret Image Sharing (2:45~4:15 pm)**

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Chair: **Prof. Wen-Chung Kuo**, National Yunlin University of Science and Technology, Taiwan

- 1087 Theoretical Analysis and Realistic Implementation of Secure Servers Switching System  
*Yu-Hong Chen, Kuang-Tse Chen, and Lei Wang*
- 1101 Design and Implementation of a Self-Growth Security Baseline Database for Automatic Security Auditing  
*Chien-Ting Kuo, He-Ming Ruan, Shih-Jen Chen, and Chin-Laung Lei*
- 1152 Enhancing Cloud-based Servers by GPU/CPU Virtualization Management  
*Tin-Yu Wu, Wei-Tsong Lee, Chien-Yu Duan, and Tain-Wen Suen*
- 1209 A Threshold Secret Image Sharing with Essential Shadow Images  
*Ching-Nung Yang and Chih-Cheng Wu*

## **Workshop on Digital Content, Digital Life, and Human Computer Interface**

**Date: Wednesday, 12 Dec. 2012**

**Room: 3F 318.319**

**Session: Digital Content and Virtual Reality (1:00~2:30 pm)**

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Chair: **Prof. Der-Lor Way**, Taipei National University of Arts

- 1066 Virtual Multiple-Perspective Display using Pyramidal or Conical Showcase  
*Yu-Tsung Chiu and Mau-Tsuen Yang*
- 1071 Stroke Rehabilitation via a Haptics-Enhanced Virtual Reality System  
*Shih-Ching Yeh, Si-Huei Lee, Jia-Chi Wang, Shuya Chen, Yu-Tsung Chen, Yi-Yung Yang, Huang-Ren Chen, Yen-Po Hung, Albert Rizzo, and Te-Lu Tsai*
- 1084 Image-Based Wearable Tangible Interface  
*Jiung-Yao Huang, Yong-Zeng Yeo, Lin Huei, and Chung-Hsien Tsai*
- 1124 The Creation of V-fold Animal Pop-up Cards from 3D Models Using a Directed Acyclic Graph  
*Der-Lor Way, Yong-Ning Hu, and Zen-Chung Shih*
- 1140 MagMobile: Enhancing Social Interactions with Rapid View-Stitching Games of Mobile



Devices

*Da-Yuan Huang, Tzu-Wen Chang, Min-Lun Tsai, Chien-Pang Lin,  
Neng-Hao Yu, Mike Y. Chen, Yi-Ping Hung, and Chih-Hao Hsu*

**Session: Human Computer Interaction, Pattern Recognition, and Computer Vision (2:45~4:15 pm)**

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Chair: **Prof. Pau-Choo Chung**, National Cheng Kung University

- 1162 Computer-Vision Based Hand Gesture Recognition and Its Application in Iphone  
*Hsi-Chieh Lee, Che-Yu Shih, and Tzu-Miao Lin*
- 1169 An Adaptive Video Program Recommender Based on Group User Profiles  
*Chun-Rong Su, Yu-Wei Li, Rui-Zhe Zhang, and Jiann-Jone Chen*
- 1200 Automatic Dancing Assessment Using Kinect  
*Ta-Che Huang, Yu-Chuan Cheng, and Cheng-Chin Chiang*
- 1204 A new view-calibrated approach for abnormal gait detection  
*Kuo-Wei Lin, Shu-Ting Wang, Pau-Choo Chung, and Ching-Fang Yang*
- 1205 Modeling and Recognizing Action Contexts in Persons Using Sparse Representation  
*Kai-Ting Chuang, Jun-Wei Hsieh, and Yilin Yan*

**Workshop on Image Processing, Computer Graphics, and Multimedia**

**Date: Friday, 14 Dec. 2012**

**Room: 3F 315.316.317**

**Session: Pattern Recognition and Object Tracking (09:30~11:30 am)**

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Chair: **Prof. Chung-Lin Huang**, National Tsing Hua University

- 1041 A Study of Real-Time Hand Gesture Recognition Using Sift on Binary Images  
*Wei-Syun Lin, Yi-Leh Wu, Wei-Chih Hung, and Cheng-Yuan Tang*
- 1133 Facial Expression Recognition Using Image Processing Techniques and Neural Networks  
*Hsi-Chieh Lee, Chia-Ying Wu, and Tzu-Miao Lin*
- 1138 Search Space Reduction in Pedestrian Detection for Driver Assistance System Based on Projective Geometry  
*Karlis Dimza, Te-Feng Su, and Shang-Hong Lai*
- 1153 Fast Multi-Path Motion Estimation Algorithm with Computation Scalability  
*Kuang-Han Tai, Gwo-Long Li, Mei-Juan Chen, and Haw-Wen Chi*
- 1158 Moving Objects Detection based on Hysteresis Thresholding  
*Hsiang-Erh Lai, Chih-Yang Lin, Ming-Kai Chen, Li-Wei Kang, and Chia-Hung Yeh*
- 1161 Smart Video Camera Design -- Real-Time Automatic Person Identification  
*Chen-Ting Ye, Tzung-Dian Wu, You-Ren Chen, Pei-An He, Pei-Qi Xie, Yuan-Yi Zhang, Shih-Meng Teng, Yen-Ting Chen, and Pao-Ann Hsiung*
- 1197 Identifying Device Brand by Using Characteristics of Color Filter Array  
*Tang-You Chang, Guo-Shiang Lin, and Shen-Chuan Tai*
- 1194 Free View Point Real-time Monitor System Based On Harris-SURF

*Tzu-Ti Chang, Fang-Yi Yu, Wei-Tsong Lee, Feng-Yu Chang, and Jason Wu*

**Session: Object Identification and Multimedia Applications (1:00~2:30 pm)**

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Chair: **Prof. I-Cheng Chang**, National Dong Hwa University

- 1105 An approach for mouth localization using face feature extraction and projection technique  
*Hui-Yu Huang and Yan-Ching Lin*
- 1014 Construction of a Machine Guide Dog Using a Two-mirror Omni-camera and an Autonomous Vehicle  
*Chih-Wei Huang and Wen-Hsiang Tsai*
- 1015 Protection of Privacy-sensitive Contents in Surveillance Videos Using WebM Video Features  
*Hsin-Hsiang Tseng and Wen-Hsiang Tsai*
- 1186 A High Performance Parallel Graph Cut Optimization for Depth Estimation  
*Bo-Yen Chen and Bo-Cheng Charles Lai*
- 1155 3D Spinal Cord and Nerves Segmentation from STIR-MRI  
*Chih Yen, Hong-Ren Su, Shang-Hong Lai, Kai-Che Liu, and Ruen-Rone Lee*
- 1144 Significance-Preserving-Guided Content-Aware Image Retargeting  
*Yu-Hsien Sung, Wen-Yu Tseng, Pao-Hung Lin, Li-Wei Kang, Chih-Yang Lin, and Chia-Hung Yeh*

**Session: Image Processing and Video Coding (2:45~4:15 pm)**

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Chair: **Prof. Chua-Huang Huang**, Feng Chia University

- 1079 Comprehensive Evaluation for HE Based Contrast Enhancement Techniques  
*Ming-Zhi Gao, Zhi-Gang Wu, and Lei Wang*
- 1198 Robust Video Copy Detection based on Constrained Feature Points  
*Duan-Yu Chen and Yu-Ming Chiu*
- 1047 A Mass Detection System in Mammograms Using Gray Level Co-occurrence Matrix and Optical Density Features  
*Shen-Chuan Tai, Zih-Siou Chen, Wei-Ting Tsai, Chin-Peng Lin, and Dr. Li-li Cheng*
- 1125 Automatic Evaluation of Choroidal Neovascularization in Fluorescein  
*Kai-Shun Lin, Chia-Ling Tsai, Shih-Jen Chen, and Wei-Yang Lin*
- 1050 Speeding up the Decisions of Quad-Tree Structures and Coding Modes for HEVC Coding Units  
*Shen-Chuan Tai, Chia-Ying Chang, Bo-Jhih Chen, and Jui-Feng Hu*
- 1070 Optimal GOP Size of H.264/AVC Temporal Scalable Coding  
*Wei-Lune Tang and Shih-Hsuan Yang*

## Workshop on Information Literacy, e-Learning, and Social Media

Date: Wednesday, 12 Dec. 2012

Room: 3F 305.306.307

Session: Plenary (1:00~1:30 pm)

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Chair: **Prof. Kun-Hung Huarng**, Feng Chia University, Taiwan

Topic: Information literacy and beyond

Speaker: Prof. An-Chi Liu

Session: Social Media and e-Learning (1:30~2:30 pm)

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Chair: **Prof. An-Chi Liu**, Feng Chia University, Taiwan

1145 Challenges for Promoting the Decision-Making Processes Based on Spatial Data Analysis

*Elzbieta Malinowski*

1193 Using Mobile Annotation System in Public Health Practice Course based on Project-Based Learning

*Ting-Ting Wu*

1211 Using Facebook to Better Engage College Students in Learning

*Wei-Bin Lee, Chun-Wen Teng, Nien-Lin Hsueh, and Yung-Hui Li*

Session: Information Literacy (2:45~4:15 pm)

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Chair: **Prof. Elzbieta Malinowski**, University of Costa Rica, Costa Rica

1176 The Information Literacy and Beyond at Feng Chia University

*Kun-Huang Huarng*

1126 A Bibliometric Analysis of the Theses and Dissertations on Information Literacy Published in the United States and Taiwan

*Pao-Nuan Hsieh, Tao-Ming Chuang, and Mei-Ling Wang*

1146 Conceptualizing Citizen's Digital Literacy through Everyday Internet Use

*Mei-Mei Wu and Ying-Hsang Liu*

1142 Can Internet usage positively or negatively affect interpersonal relationship?

*Chih-Hung Lai, Chunn-Ying Lin, Cheng-Hung Chen, Hwei-Ling Gwung, and Chia-Hao Li*

Session: Panel Discussion (4:30~5:10 pm)

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Chair: **Prof. Mei-Mei Wu**, National Taiwan Normal University, Taiwan

Panelists: **Prof. An-Chi Liu, Prof. Ruay-Shiung Chang, Prof. Kun-Hung Huarng, Prof. Mei-Mei Wu**

## Workshop on Mobile Computing, Wireless Communications, and Vehicular Technologies

Date: Friday, 14 Dec. 2012

Room: 3F 305.306.307

Session: Wireless Sensor Networks (09:30~11:30 am)

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Chair: **Prof. Jen-Yeu Chen**, National Dong Hwa University

- 1020 Merging Grid into Clustering-based Routing Protocol for Wireless Sensor Networks  
*Ying-Hong Wang, Yu-Wei Lin, Yu-Yu Lin, and Hang-Ming Chang*
- 1036 CDTS: Coordinator Data Traffic Shunt model for Zigbee networks  
*Chinyang Henry Tseng, Shaihuey Wang, Bor-Shing Lin, Tong-Ying Juang, and Xiao-Ru Ji*
- 1039 A Zone-Based Localization Scheme for Wireless Sensor Networks with Bilateralation  
*Chi-Chang Chen, Chi-Yu Chang, and Yan-Nong Li*
- 1069 IARC-An Improved Coverage Based Sensor Network Topology Control Algorithm  
*Wei-Jun Lin, Tsen-Jui Lin, and Lei Wang*
- 1185 Coverage Improvement for Directional Sensor Networks  
*Tien-Wen Sung and Chu-Sing Yang*
- 1191 Design and Analysis of Hybrid Wireless Mesh Networks for Smart Grids  
*Philip Huu Huynh and C. Edward Chow*
- 1164 Coding Scheme Improved Query Efficiency of Hierarchical MIIS Servers with Cache in Heterogeneous Networks  
*Pei-Chen Tseng, Jai-Yan Tsai, and Wen-Shyang Hwang*
- 1183 Message Relaying with Data Aggregation for Drive-Thru Internet Services in Vehicular Networks  
*Chih-Lin Hu, Chung-Chun Wang, and Jiun-Yu Tu*

**Session: Wireless Ad Hoc Networks (1:00~2:30 pm)**

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Chair: **Prof. Yao-Chung Chang**, National Taitung University

- 1052 Improving Pairwise Key Predistribution in Wireless Sensor Networks  
*Neng-Chung Wang and Hong-Li Chen*
- 1207 Integration of EPC and wireless sensor networks for heterogeneous networking in a U-life environment  
*Yao-Chung Chang*
- 1017 UDP Based Reliable File Delivery Mechanisms for Video Streaming over Unstable Wireless Networks  
*Shih-Ying Chang, Xin-Yan Yeh, Hsin-Ta Chiao, and Hung-Min Sun*
- 1055 Medium Access Control with SDMA for Wireless Ad Hoc Networks  
*Neng-Chung Wang and Yu-Chun Huang*
- 1104 Game Theoretical Cooperative Resource Allocation for Broadcasting in Cognitive Radio Networks  
*Hsin-Chun Wu, Shuo-Cheng Hu, and Ai-Chun Pang*
- 1121 A Cluster-based Link Recovery Mechanism for Spectrum Aware On-demand Routing in Cognitive Radio Ad Hoc Networks  
*Chih-Chieh Tang, Kuo-Feng Ssu, and Chun-Hao Yang*

**Session: Wireless Protocols Design (2:45~4:15 pm)**

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Chair: **Prof. Chia-Hui Huang**, National Taipei College of Business

- 1120 Design and Implementation of a Software Development Kit for LLRP Readers

- Yu-Shin Chang, Sheng-Pang Kuo, and Chua-Huang Huang*
- 1170 A Flow-Aware Placement of Mobile Agent Control Network over Opportunistic Networks  
*Hsiao-Tzu You, Yao-Nan Lien, and Jyh-Shyan Huang*
- 1177 Achieving Weighted Fairness for High Performance Distributed Coordination Function with QoS Support in WLANs  
*Yeong-Sheng Chen, Fan-Chun Tseng, and Chih-Heng Ke*
- 1182 A Cross-Layer Design for Energy Efficient Sleep Scheduling in Uplink Transmissions of IEEE 802.16 Broadband Wireless Networks  
*Jen-Jee Chen, Shih-Lin Wu, and Wei-Yu Lin*
- 1044 The Universal Local IP Access for Small Cells  
*Yung-Chun Lin and Chai-Hien Gan*
- 1061 Implementation of Radar Map Using GPS in Vehicular Networks  
*Chun-I Kuo, Po-Ching Wang, Chih-Hsun Lin, Ce-Kuen Shieh, and Ming-Fong Tsai*

## **Workshop on Software Engineering and Programming Languages**

**Date: Thursday, 13 Dec. 2012**

**Room: 3F 308.309**

**Session: Novel Compilation Techniques (1:00~2:30 pm)**

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Chair: **Prof. Peng-Sheng Chen**, National Chung Cheng University, Taiwan

- 1123 Low Power Compiler Optimization for Pipelining Scaling  
*Jen-Chieh Chang, Cheng-Yu Lee, Chia-Jung Chen, and Rong-Guey Chang*
- 1179 Accurate Instruction-Level Alias Analysis for ARM Executable Code  
*Tat-Wai Chong and Peng-Sheng Chen*
- 1022 A Translation Framework for Automatic Translation of Annotated LLVM IR into OpenCL Kernel Function  
*Chen-Ting Chang, Yu-Sheng Chen, I-Wei Wu, and Jyh-Jiun Shann*
- 1119 An Editing System Converting a UML State Diagram to a PLC Program  
*Yung-Liang Chang, Chin-Feng Fan, and Swu Yih*

**Session: Web Services and Software Engineering (2:45~4:15 pm)**

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Chair: **Prof. Jiann-I Pan**, Tzu-Chi University, Taiwan

- 1038 An Effective Flood Forecasting System Based on Web Services  
*Ya-Hui Chang, Pei-Shan Wu, Yu-Te Liu, and Shang-Pin Ma*
- 1107 A Two-leveled Web Service Path Re-planning Technique  
*Shih-Chien Chou and Chih-Yang Chiang*
- 1048 A Flexible and Re-configurable Service Platform for Multi-user Mobile Games  
*Yu-Sheng Cheng, Chun-Feng Liao, and Don-Lin Yang*
- 1009 A Simulation Environment for Studying the Interaction Process between a Human and an

Embedded Control System

*Chin-Feng Fan, Cheng-Tao Chiang, and Albert Yih*