ICDH

Programme Book

ICDH2016

2016 International Conference on Digital Home

Dec. 2-4, 2016

"Digital Home, Better Life"

Sun Yat-sen University, Guangzhou, China

Website: http://icdh.sysu.edu.cn

Digital Home

In recent years, consumption of digital home related products has become a new high. Various kinds of digital products and services have been popular with ordinary homes. After years of rapid development, digital home industry in China now is strong industry associated and large-scaled.

The Digital Living Network Alliance (DLNA) believes that digital home is more than network technology. It is also a service business. It realizes not only the sharing of all device resources and collaboration of working network within the family, but also communication between devices with the family and network outside through connection. In addition, it provides integrated service of voice, data, multimedia, high-quality audio and video, as well as control and management. Digital home enables users to enjoy the comfort, convenience, safety and new life experience.

For the broad market prospects, major companies take action in the field of digital home. As one of the largest chip producers Intel, a member of DLNA, shows its ambition to the field. Microsoft, world's largest software, the sponsor of DLNA with Intel, ever proposed Venus plan. Now it launches various products in the field like newest Kinect and Windows Phone 7 system. And there will be further action.

In 2005, Guangdong Province started "Digital Home Action" plan and put forward new digital home construct mode, which is centered on digital TV, iterative service oriented and realizing 3C convergence within family. At present, several districts are in pilot application within this mode.

Accompanied by the acceleration of CATV digitalization, HDTV population and tri-network convergence process, digital home becomes increasingly important. Digital TV is not merely the most important display center, but the most important center of information storage and intelligent control over many terminal devices within the family. The way of watching TV programs will transform from single-directed and passive communication to dialogs between human and intelligent information media.




Contents

Welcome Message

As the General Chairs and on behalf of the Organizing Committee of the 2016 International Conference on Digital Home (ICDH 2016), we would like to express our cordial welcome and gratitude for all participants who attend the conference in Guangzhou, China, 2-4 December 2016.

ICDH has become a premier international conference in the areas related to digital-home technologies, aiming at bringing together researchers and practitioners working on these areas to present and to discuss emerging ideas and trends in this highly challenging research field. ICDH 2016, with the theme of "Digital Home, Better Life," has attracted many high-quality research papers which highlight the foundational work that strives to push beyond limits of existing technologies, including experimental efforts, innovative systems, and investigations that identify the challenges in the existing methods and technologies.

ICDH 2016 is co-hosted by Sun Yat-sen University, China and Dalian University of Technology, China, and is technically co-sponsored by IEEE Computer Society.

The keynote speakers include:

- Professor **Kun Zhou** from Zhejiang University, China
- Professor **Kun Xu** from Tsinghua University, China
- Professor **Lei Zhang** from the Hong Kong Polytechnic University, Hong Kong
- Professor **Wenping Wang** from the University of Hong Kong, Hong Kong
- Professor **Xiangjian He** from the University of Technology, Sydney, Australia

Many individuals have contributed to the success of ICDH 2016. We would like to give our thanks to all the members of the International Technical Committee and Organizing Committee, as well as all the reviewers for their efforts and support.

We sincerely hope that all the participants enjoy the conference in Guangzhou.

Prof. Xiaonan Luo, *Sun Yat-sen University, China*
Prof. Zhongxuan Luo, *Dalian University of Technology, China*
ICDH 2016 General Chairs

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	Dr. Gui-Feng Zheng	Dr. Si-Fen Zhong	Prof. Fan Zhou	

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ICDH 2016 Conference

Speakers Introduction

Keynote Speaker

Professor Kun Zhou

Title of the Speech:

Digital Avatars for All: Interactive Face and Hair

Kun Zhou is a Cheung Kong Professor and the Director of the State Key Lab of CAD&CG at Zhejiang University. Earlier, he was a Lead Researcher of the Internet Graphics Group at Microsoft Research Asia. He received his BS and PhD degrees from Zhejiang University in 1997 and 2002, respectively. His research interests include geometry processing, photorealistic rendering, computer animation and GPU parallel computing. He was/is an associate editor of ACM Transactions on Graphics and The Visual Computer, and serves on the editorial advisory board of IEEE Spectrum. He is a Fellow of IEEE.

Professor Kun Xu

Title of the Speech:

Efficient Modeling and Decoration of 3D Indoor Scenes

Kun Xu is an Associate Professor in the Department of Computer Science and Technology at Tsinghua University. He obtained his PhD degree from the same university in 2009. His research interests include realistic rendering, and visual media editing and construction. He has published more than 20 papers, 10 of which are published on SIGGRAPH or ACM/IEEE Transactions journals. He is an awardee of the second prize of the natural science award of China, and is a winner of the CCF outstanding doctoral dissertation award. He served as the program co-chair of Pacific Graphics 2015.

Keynote Speaker

Professor Lei Zhang

Title of the Speech:

Image Restoration: From Sparsity Prior, Low-rank Prior to Deep Priors

Lei Zhang (M'04, SM'14) received his B.Sc. degree in 1995 from Shenyang Institute of Aeronautical Engineering, Shenyang, P.R. China, and M.Sc. and Ph.D degrees in Control Theory and Engineering from Northwestern Polytechnical University, Xi'an, P.R. China, respectively in 1998 and 2001, respectively. From 2001 to 2002, he was a research associate in the Department of Computing, The Hong Kong Polytechnic University. From January 2003 to January 2006 he worked as a Postdoctoral Fellow in the Department of Electrical and Computer Engineering, McMaster University, Canada. In 2006, he joined the Department of Computing, The Hong Kong Polytechnic University, as an Assistant Professor. Since July 2015, he has been a Full Professor in the same department. His research interests include Computer Vision, Pattern Recognition, Image and Video Processing, and Biometrics, etc. Prof. Zhang has published more than 200 papers in those areas. As of 2016, his publications have been cited more than 20,000 times in the literature. Prof. Zhang is an Associate Editor of *IEEE Trans. on Image Processing*, *SIAM Journal of Imaging Sciences* and *Image and Vision Computing*, etc. He is a "Highly Cited Researcher" selected by Thomson Reuters. More information can be found in his homepage http://www4.comp.polyu.edu.hk/~cslzhang/.

Professor Wenping Wang

Title of the Speech:

Modeling 3D Shapes from a Single Image

Wenping Wang is a Professor and Head of Department in the Department of Computer Science, the University of Hong Kong. Professor Wang conducts research in computer graphics, visualization, and geometric computing and has 120 journal publications in these fields. He has made fundamental research contributions in collision detection, shape modeling and analysis, mesh generation, and architectural geometry. He is journal associate editor of several famous journals and program chair of several international conferences. He received the Outstanding Researcher Award of The University of Hong Kong in 2013.

Keynote Speaker

Professor Xiangjian He

Title of the Speech:

A Generative Model for Recognizing Mixed Group Activities in Still Images

Xiangjian He is a Professor and the Director of Computer Vision and Pattern Recognition Laboratory at the Global Big Data Technologies Centre (GBDTC) at the University of Technology, Sydney (UTS). He is also the Director of UTS-NPU International Joint Laboratory on Digital Media and Intelligent Networks. He is an IEEE Senior Member and has been an IEEE Signal Processing Society Student Committee member. He has been awarded 'Internationally Registered Technology Specialist' by International Technology Institute (ITI). He has been carrying out research mainly in the areas of image processing, network security, pattern recognition and computer vision in the previous years.

ICDH 2016 Conference

Schedule

December 2-4

ICDH 2016 Program at a Glance

ICDH 2016 国际会议日程一览表

Data	Time	Venue	Event / Session	Session Chairs
ICDH 2016 Main Conference, Dec. 2-4, 2016（中山大学东校区）				
Dec. 2, 2016 (Friday)				
Morning	08:00-09:00	Administration Building Lecture Hall（行政楼报告厅）	Registration	
	09:10-09:30		Opening Ceremony: Welcome Speeches	
	09:30-09:45		Photography	
	09:50-10:35		Plenary Lecture 1: Prof. Kun Zhou	Prof. Jieqing Tan
	10:35-10:50		Tea Break	
	10:50-11:35		Plenary Lecture 2: Prof. Xiangjian He	Prof. Jieqing Tan
Lunch	11:35-13:30	Administration Building Canteen (行政楼餐厅)		
Afternoon	13:30-15:15	Paper Session: Classroom Building C (公共教学楼C座)		
		Room C401	Image and Video Processing I	Dr. Xiaowei Xu
		Room C402	Software Engineering	Dr. Xiangping Chen
		Room C403	Computer Vision I	Dr. Zheng Li
	15:15-15:30		Tea Break	
	15:30-17:15	Room C401	Image and Video Processing II	A. Prof. Bo Li
		Room C402	Big Data Storage and Retrieval	Dr. Ge Lin
		Room C403	Computer Vision II	Prof. Li Zhang

ICDH 2016 Program at a Glance

ICDH 2016 国际会议日程一览表(续)

Data	Time	Venue	Event / Session	Session Chairs
Dec. 3, 2016 (Saturday)				
Morning	09:00-09:45	Administration Building Lecture Hall (行政楼报告厅)	Plenary Lecture 3: Prof. Lei Zhang	Prof. Baocai Yin
	09:50-10:35		Plenary Lecture 4: Prof. Kun Xu	
	10:35-10:50		Tea Break	
	10:50-11:35		Plenary Lecture 5: Prof. Wenping Wang	Prof. Zhixun Su
Lunch	11:35-13:30	Administration Building Canteen (行政楼餐厅)		
Afternoon	13:30-15:15	Paper Session: Classroom Building C (公共教学楼C座)		
		Room C401	Multimedia & Virtual Media	Dr. Zhuo Su
		Room C402	Digital Home Network and System I	Dr. Hefeng Wu
		Room C403	Modeling & Simulation	Prof. Ruomei Wang
	15:15-15:30		Tea Break	
	15:30-17:15	Room C401	Computer Graphics	Dr. Hanhui Li
		Room C402	Digital Home Network and System II	Dr. Xiangping Chen
Evening	18:00-20:00	Hong Men Yan (鸿门宴餐厅)	Conference Banquet	
Dec. 4, 2016 (Sunday)				
Morning	09:00-10:00	SDCS Building A101 (数据科学与计算机学院A101)	Enterprise Lecture 1	Prof. Ruomei Wang
	10:00-10:15		Tea Break	
	10:15-11:15		Enterprise Lecture 2	Prof. Ruomei Wang
Lunch	11:30-13:30	Administration Building Canteen (行政楼餐厅)		

ICDH 2016 Conference

Keynote Speeches

December 2-3

Morning

Friday Morning, Dec 2, 2016

Administration Building Lecture Hall（行政楼报告厅）

Time	Program
08:00-09:00	Registration
9:10-09:30	**Opening Ceremony** **Welcome Speech** Prof. Depei Qian Dean of School of Data and Computer Science, Sun Yat-sen University **Introduction to ICDH 2016 Conference** Prof. Zhongxuan Luo, Co-chairman of ICDH2016 Chairman: Prof. Xiaonan Luo
9:30-09:45	Photography
09:50-10:35	Plenary Lecture 1 **Digital Avatars for All: Interactive Face and Hair** Prof. Kun Zhou Zhejiang University, China Chairman: Prof. Jieqing Tan
10:35-10:50	Tea Break
10:50-11:35	Plenary Lecture 2 **A Generative Model for Recognizing Mixed Group Activities in Still Images** Prof. Xiangjian He The University of Technology, Sydney (UTS), Australia Chairman: Prof. Jieqing Tan
11:35-13:30	Lunch

Saturday Morning, Dec 3, 2016

Administration Building Lecture Hall（行政楼报告厅）

Time	Program
09:00-09:45	Plenary Lecture 3 **Image Restoration: From Sparsity Prior, Low-rank Prior to Deep Priors** Prof. Lei Zhang The Hong Kong Polytechnic University, Hong Kong , China Chairman: Prof. Baocai Yin
09:50-10:35	Plenary Lecture 4 **Efficient Modeling and Decoration of 3D Indoor Scenes** Prof. Kun Xu Tsinghua University, China Chairman: Prof. Baocai Yin
10:35-10:50	Tea Break
10:50-11:35	Plenary Lecture 5 **Modeling 3D Shapes from a Single Image** Prof. Wenping Wang The University of Hong Kong, Hong Kong, China Chairman: Prof. Zhixun Su
12:00-13:30	Lunch

ICDH 2016 Conference

Paper Sections

December 2-3

Afternoon

Session I

December 2, 13:30 - 15:15 Classroom Building C（教学楼C座）

Session I-1. Image and Video Processing I

Chairman: Dr. Xiaowei Xu (Room C401)

A Fast Training Example Searching Algorithm for Data-Driven Dehazing
Xianxuan Tang, Xin Fan, Yuzhuo Duan, and Zhongxuan Luo

A Steganography System Based on Dual Chaotic Encryption and Singular Value Shifting
Jiaxin Miao, Yiqi Xiao, Zhuo Su, and Yun Liang

A Priors-Merging Method for Dehazing
Jichao Yan, Zhanghao Huang, Zhuo Su, and Xiaonan Luo

Clothing Co-Segmentation Based on HOG Features and E-SVM Classifier
Jianhong Zhang, Li Liu, Dongyan Huang, Xiaodong Fu, and Qingsong Huang

Detecting Abnormal Behavior in Examination Surveillance Video with 3D Convolutional Neural Networks
Ximin Cai, Fangyu Hu, and Lizhi Ding

Recursive Image Representation Method Based on Grassmann Space
Shi Zhuo, Wang Zhongshuai, Sun Xiyan, Yuan Yuan, Ji Yuanfa, Chen Guangxi, Zhong Si

Session I-2. Software Engineering

Chairman: Dr. Xiangping Chen (Room C402)

An Adaptive Pointer-Chasing Data Prefetching Strategy Based on Phased Memory Behavior Functions
Huang Yan and Li Yuhua

Automatic Matching Release Notes and Source Code by Generating Summary for Software Change
Yuan Huang, Zhiyong Liu, Xiangping Chen, and Xiaonan Luo

Towards Automatic Content Transfer between Web Pages
Yonghao Long, Xiangping Chen, Yongsheng Rao, and Xiaohong Shi

A New Multi-Scroll Chaotic System Generated from Switching Control
Chaoxia Zhang and Qiang Chen

Signature Scheme in Eisenstein Ring Based on Multi-Biometric Characteristic Identity
Feng Li and Qingzhen Xu

Session I-3. Computer Vision I

Chairman: Dr. Zheng Li (Room C403)

A New Method of Two-Dimensional Direct LDA and Its Application in Face Recognition
Dong Wang and Shunfang Wang

A Robust Hand Gesture Recognition Method via Convolutional Neural Network
Xing Yingxin, Li Jinghua, Wang Lichun, and Kong Dehui

Ultrasound Image Features Detection Using Phase Congruency Based Dimensionality Reduction
Qingzhen Xu, Lijuan Wang, and Zhoutao Wang

Visual Tracking by Integrating Fast Ensemble Proposal and Sparse Verification
Shijia Huang, Hefeng Wu, Hanhui Li, and Yongyi Gong

Recurrence Images on Rectangular Cross-cut with L-Surfaces
Zhong YanRu, Yuan ZhiXiang, Sun YanXi, Liu HuaYi, Shi Zhuo, Chen GuangXi, Zhong Si, Li Fang, Luo Xiaonan

Session II

December 2, 15:30 - 17:15 Classroom Building C（教学楼C座）

Session II-1. Image and Video Processing II

Chairman: A. Prof. Bo Li (Room C401)

Indication and Detection of Global Fidelity of Block Image Magnification Based on Radial Basis Function Interpolation
Chunjing Li, Si Cheng, Xianxian Chen, Wenjia Zhu, and Jing Hu

Video Denoising Based on Spatial-Temporal Filtering
Ali Abdullah Yahya, Jieqing Tan, Benyue Su, and Kui Liu

Video Classification via Spatial-Temporal Subspace Learning
Bo Li, Xiaojie Liang, and Lianbao Jin

Super-Resolution Reconstruction of Face Image with Improved Sparse Constraint
Huasheng Zhu, Fan Li, Jun Ye, and Jun Wang

Moving Obstacle Removal via Low Rank Decomposition
Yue-Yun Deng, Yan-Rui Xu, Dong Wang, Yue-Fang Gao, and Xiao-Qiang Wu

Image Representation of Rational Surface Based on Tensor Product Form
Zhu Ying, Jiang Jingyue, Tang Zhiling, Sun Xiyan, Shi Zhuo, Chen Guangxi, Zhong Si, and Luo Xiaonan

Session II-2. Big Data Storage and Retrieval

Chairman: Dr. Ge Lin (Room C402)

A Hybrid Transaction Processing and Data Analysis Framework: A Use Case Study for Multi-Source Healthcare Data Management
Ye Tao, Xiaodong Wang, Xiaowei Xu, and Jiguang Yu

A Raspberry Pi and LXC Based Distributed Computing Testbed
Xiaodong Wang, Shouhao Jiang, Xiaowei Xu, Zhiyong Wu, and Ye Tao

Research and Design of Hybrid Collaborative Filtering Algorithm Scalability Reform Based on Genetic Algorithm Optimization
Liu Shou-Qiang, Qi Ming, and Xu Qing-Zhen

Robust Late Fusion on Multi-View Clustering
Lei Du, Xiaonan Luo, and Yan Pan

A Highly Efficient Quantitative Transaction Data Mining Model
Jinfei Yang and Qingzhen Xu

Session II-3. Computer Vision II

Chairman: Prof. Li Zhang (Room C403)

NEAS: Nonuniform Extraction of Attractive Structures for Image Analysis
Yiyang Wang, Risheng Liu, Xiaoliang Song, and Zhixun Su

Sparse Affine Hull for Visual Tracking
Jun Wang, Yuanyun Wang, Chengzhi Deng, Huasheng Zhu, Shengqian Wang, and Li Lv

Multi-Cue Adaptive Correlation Filters for Visual Tracking
Chang Liu, Dapeng Feng, Hefeng Wu, and Ning Liu

Object Tracking via Discriminative Anisotropic Propagation
Yuzhuo Han, Risheng Liu, Guangyu Zhong, Xin Fan, Haojie Li, and Zhongxuan Luo

Session III

December 3, 13:30 - 15:15 Classroom Building C（教学楼C座）

Session III-1. Multimedia & Virtual Media

Chairman: Dr. Zhuo Su (Room C401)

A Self-Adapting Approach to Topic Boundary Detection in Video Subtitles
Xin Qi, Shujin Lin, Baoquan Zhao, and Xiaonan Luo

An Interactive Virtual Experiment Platform for Digital Logic Education
Zheng Li

Speech Enhancement Based on Multi-Stream Model
Yan Xiong, Qiang Chen, Fang Xu, and Jun Zhang

Vehicle Detection through Traffic Video in Congested Traffic Flow
Meng Mao, Yong Zhang, Boyue Wang, Hao Liu, and Baocai Yin

Real-Time Video Communication between Intelligent Terminal and STB
Ma Jian-Ping, Chen Bo, Chen Qiang, and Xu Jianyuan

Session III-2. Digital Home Network and System I

Chairman: Dr. Hefeng Wu (Room C402)

A Crowd Pre-Warning System Based on Mobile Locators and Behavior Prediction
Zheng Hong, Deng Xiao, and Deng Wenxuan

Cooperative Data Delivery in Sparse Cellular-VANET Networks
Bowen Zheng, Ping Wang, Fuqiang Liu, and Chao Wang

An Improved Decision Tree Method Base on RELIEFF for Medical Diagnosis
Quanjun Liu, Xiaowei Xu, Ye Tao, and Xiaodong Wang

Energy Consumption Research on 3D Wireless Sensor Space
Qian Zou, Mu Zhang, and Wei Huang

Session III-3. Modeling & Simulation

Chairman: Prof. Ruomei Wang (Room C403)

A Novel Features Learning Method for ECG Arrhythmias Using Deep Belief Networks
Zhiyong Wu, Xiangqian Ding, Guangrui Zhang, Xiaowei Xu, Xiaodong Wang, Ye Tao, and Chuanxiang Ju

A Robust Feature Set for Wearable Multichannel Myoelectric Devices in Practice
Huiyang Lu, Haoshi Zhang, Mouguang Lin, and Ruomei Wang

The Research and Application of Customer Segmentation on E-Commerce Websites
Xixi He and Chen Li

G2 Blending of Generalized B-Spline Curves and Surfaces by Using Dual Basis
Li Zhang, Jieqing Tan, Xianyu Ge, and Lin Zhao

Hybrid Feature Selection Based on Improved Genetic Algorithm for Stock Prediction
Yanan Mao, Zuoquan Zhang, and Dingyuan Fan

The Risk Measurement and Empirical Study of China's CSI 300 Index Based on GARCH Model Family
Yuqing Zhang, Zuoquan Zhang, and Dingyuan Fan

PCA-GRNN-GA Based PH Value Prediction Model Applied in Penaeus Orientalis Culture
Xiaohong Peng, Liang Chen, Yinghuai Yu, and Dongya Wang

Session IV

December 3, 15:30 - 17:15 Classroom Building C（教学楼C座）

Session IV-1. Computer Graphics

Chairman: Dr. Hanhui Li (Room C401)

3D Model Retrieval Based on Hand Drawn Sketches Using LDA Model
Haopeng Lei, Guoliang Luo, Yuhua Li, and Shujin Lin

A Mesh Reconstruction Method Based on View Maps
Zhengjie Deng, Shuqian He, Chun Shi, Jianping Feng, and Cuihua Ma

A Balanced Surface Parameterization Method and Its Application to Spline Fitting
Xiaopeng Zheng, Na Lei, Xiaokang Yu, Wei Chen, Mengci Song, and Xianfeng Gu

Algorithm Research on the Cloud Data Process of 3D Printing Collecting-Distribution Manufacturing
Jiang Yue-Juan, Yang Ming, and Lu Bing-Heng

Convergence of Modification of the Kantorovich-Type q-Bernstein-Stancu-Schurer Operators
Qing-Bo Cai

Mesh Saliency Detection Based on Entropy
Pingping Tao, Lina Zhang, Junjie Cao, and Xiuping Liu

Detection of Imbalanced Vertices in 3D Meshes
Kaiyi Feng, Qi Li, Yongyi Gong, Jing Yang, and Silong Peng

Session IV-2. Digital Home Network and System II

Chairman: Dr. Xiangping Chen (Room C402)

VNE-Greedy: Virtual Network Embedding Algorithm Based on OpenStack Cloud Computing Platform
Saleem Karmoshi, Ammar Hawbani, Aiman Ghannami, Salah Mohammed, and Ming Zhu

Research on High-Precision Region Division of Wireless Sensor Node Network
Dagang Gu, Wei Huang, Qian Zou, and Yan Long

Research of Signed Networks Community Detection Based on the Tightness of Common Neighbors
Hu Xinzhuan, Jingfeng Guo, Xiao Chen, and Xiaomeng Zhao

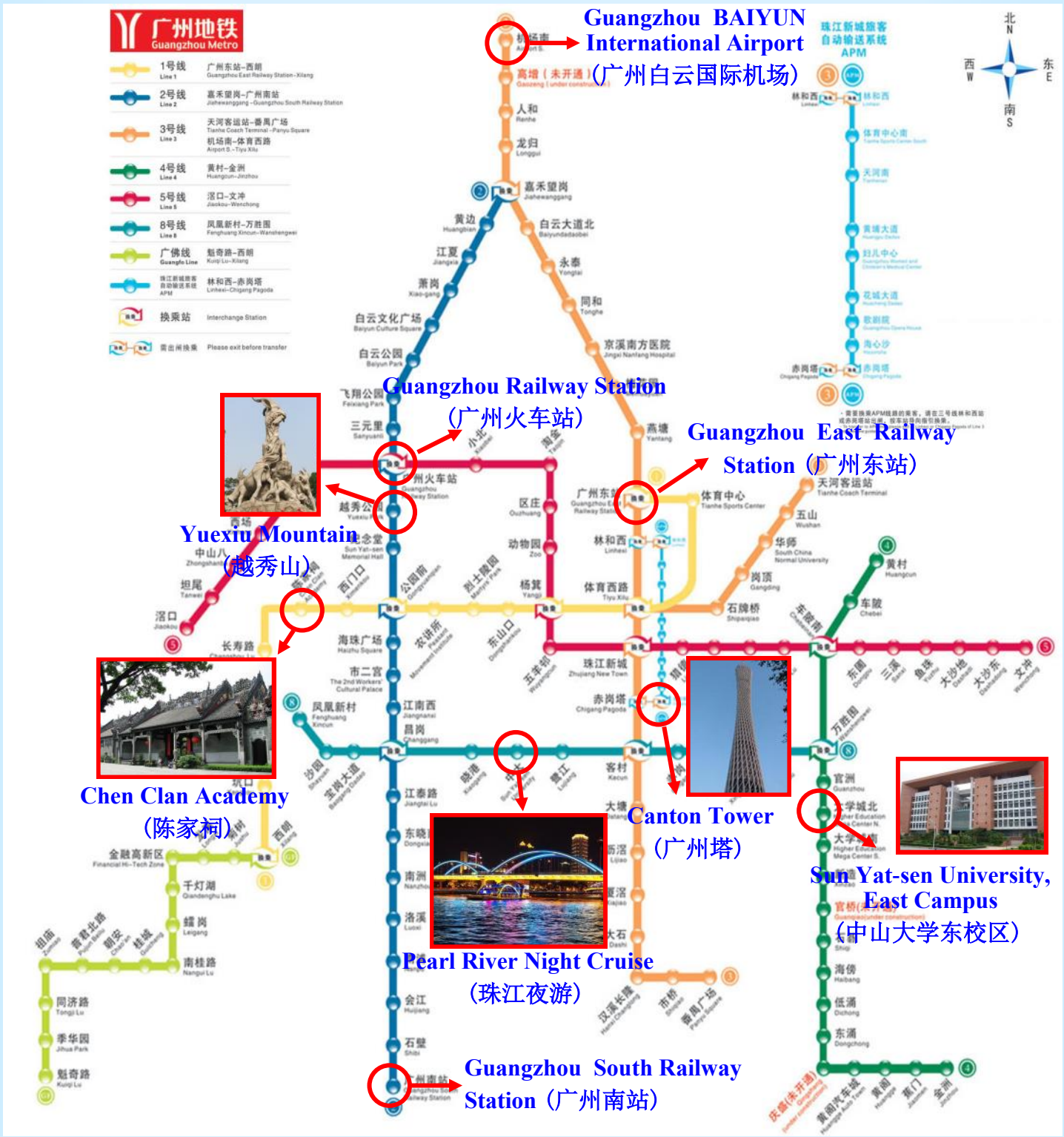
Design and Implementation of Assessment System of Airport Bird-Scaring Equipment Effectiveness Based on Fuzzy Comprehensive Evaluation
Liang Zhang and Jianwei Li

Sun Yat-sen University, East Campus, Guangzhou, China

中山大学，东校区，广州，中国

Guangzhou Metro System Map

广州地铁线网图



国家数字家庭工程技术研究中心（以下简称“工程中心”）是由国家科技部批准，依托中山大学与TCL集团股份有限公司进行建设，中山大学罗笑南教授担任工程中心主任，目前已顺利通过科技部验收。

工程中心建设目标为：以国家战略性新兴产业发展规划为指导，开展数字家庭关键技术研究，形成支撑数字家庭内部信息处理、显示、交互与传输的共性工程技术体系，提高我国数字家庭产业技术创新能力与产业发展能力，打造具有中国特色的数字家庭模式；组建国内数字家庭领域一流的工程技术研发团队，培养和引进一批高层次工程技术研究人才，形成具有我国自主知识产权的专利池，并制定相关的行业标准与规范，带动数字家庭产业链的发展；加快成果转化和产业化，通过试点示范推动技术成果向相关行业辐射，促进我国数字家庭战略性新兴产业的发展。

工程中心建设五年来，围绕“以数字电视为中心”的数字家庭开展重大、关键工程技术研究与科技攻关，搭建数字家庭公共技术支撑平台，建设与完善数字家庭知识产权体系，支撑数字家庭产业发展，并取得良好成绩。

在建设过程中工程中心得到了国家、部委、省市地方等多级联动支持，承担了“核高基重大专项”、“国家科技支撑计划”、“863计划”、电子发展基金等国家、省部级重点课题；成果研发与应用推广方面，工程中心推出了基于国产SOC芯片和自主技术软件的数字家庭智能盒、基于AVS标准的3D智能电视、智讯平台、TVOS等一系列成果； 理论研究方面，工程中心建设期内在ACM Siggraph、ACM MobiCom、IEEE INFOCOM、ACM Transactions、IEEE Transactions等重要国际会议、核心期刊上发表了一批高水平学术论文。积极参加国际学术交流，组织了ICDH国际会议，参加SIGGRAPH Asia、IEEE CPSCom、IEEE IASP、IEEE INFOCOM等重要国际会议，并就相关成果作会议报告。

中山大学深圳研究院是中山大学在深圳成立的事业单位，2007年4月正式入驻深圳虚拟大学园，研究院致力于成为中山大学服务深圳地方的一流的产学研结合的创新基地。2009年以来，研究院连续七年获得深圳市科技创新委员会授予“优秀研究院”称号，并获得促进产学研合作先进奖、科技资源引进奖、人才培养与引进先进奖、大型学术会议及论坛组织奖等多种奖项，服务深圳取得良好的社会和经济效益。

在人才培养方面，依托深圳虚拟大学园工作站联合培养博士后，迄今培养6名博士后。**2015年，获批深圳市博士后创新实践基地**。2012年开始招收全日制计算机技术工程硕士研究生，并建立十大实习基地。同时，深圳市中小企业服务署委托我院开展深圳市创新型企业资本运作高级研修班，支持深圳市中小企业融资和上市。

在成果转化与产业合作方面，研究院积极与深圳企业开展合作，包括华为、创维、同洲电子、深圳联通等行业龙头骨干单位开展横向课题合作与纵向科技成果转化，取得了一系列科研成果。第16届深圳高交会上，我院“智慧社区综合服务系统”获得优秀产品奖。

在平台建设孵化方面，构建“国家-省市-学院”多层次的创新平台体系。2011年3月，中山大学与深圳市政府签署了合作共建国家级科技创新平台协议。2015年，研究院获批广东省第一批新型研发机构；同时，获批深圳市科技金融联盟工作站。目前，已引进2个国家级科研机构到深圳，建有2个省级创新平台，5个市级创新平台。同时，我院辅导多家企业获批为深圳市科技企业孵化器。2014年下旬，深圳市中大产学研孵化大楼2.6万平方米正式运营，为中山大学进一步服务地方经济和产学研发展提供了坚实的基础。

在创业创新方面，2015年起，我院积极建设创客交流平台，先后成功承办南山区创业之星大赛（互联网分赛场）、深圳市创新创业大赛（中山大学深圳研究院分赛场）、深圳市龙华新区青年创新创业大赛（中山大学深圳研究院承办）。从区到市再到区，我院已在创新创业工作方面积累了丰富的经验，并产生了较好的社会影响力，得到深圳虚拟大学园、深圳市科创委及国内主要媒体如人民网、新浪网、南方都市报等的特别报道。

目前，我院正在积极探索一条推动研究院可持续发展的创新之路，将研究院真正打造成为服务深圳地方需求的新型研发机构，更好地为深圳与粤港区域经济提供有力的支持与服务，培育与孵化更多创业创新成长型企业。

中山大學 深圳研究院
RESEARCH INSTITUTE OF SUN YAT-SEN UNIVERSITY IN SHENZHEN

Contact Information:
ICDH 2016 Secretariat
Phone: 86-20-3994 3199
Fax: 86-20-3994 3199
Email: icdh@mail.sysu.edu.cn
Website: http://icdh.sysu.edu.cn/