



2016 IEEE 20th International Conference on Computer Supported Cooperative Work in Design (CSCWD 2016) May 4-6, 2016, Nanchang, China

<http://2016.cscwd.org/>

Final Technical Program

Tuesday May 3, 2016

17:30 – 19:30 Registration: Nanchang University QianHu Hotel
Reception Dinner: QianHu Hotel Western Restaurant (the first floor)

Wednesday May 4, 2016

07:30 - 17:30	Registration (Nanchang University Qianhu Hotel)		
08:30 - 09:00	Opening Plenary (Room A)		
09:00 – 10:00	Keynote Speech : Prof. Max Meng, Robotics to Facilitate Robots to Merge into Society Chair: Prof. Weiming Shen (Room A)		
10:00 – 10:20	Coffee/Tea Break		
10:20 – 12:00	Session A1: Room A	Session B1: Room B	Session C1: Room C
12:00 – 13:00	Lunch Buffet (QianHu Hotel Western Restaurant)		
13:00 – 15:00	Session A2: Room A	Session B2 : Room B	Session C2: Room C
15:00 – 15:20	Coffee/Tea Break		
15:20 – 17:20	Session A3: Room A	Session B3: Room B	Session C3: Room C
17:30–19:00	Dinner Buffet (QianHu Hotel Western Restaurant)		
19:00 – 21:00	IEEE SMC CSCWD TC & CSCWD Steering Committee Meeting (Room B)		

Thursday May 5, 2016

08:30 - 09:30	Keynote Speech: Prof. Clarence de Silva, Some Issues and Applications of Multi-robot Cooperation Chair: Prof. Chunsheng Yang (Room A)		
09:30 – 10:00	Coffee/Tea Break		
10:00 – 12:00	Session A4: Room A	Session B4: Room B	Session C4: Room C
12:00 – 13:00	Lunch Buffet (QianHu Hotel Western Restaurant)		
13:00 – 15:00	Session A5: Room A	Session B5: Room B	Session C5: Room C
15:00 – 15:20	Coffee/Tea Break		
15:20 – 17:20	Session A6: Room A	Session B6: Room B	Session C6: Room C
18:00 – 21:00	Banquet (QianHu Hotel Chinese Restaurant)		

Friday May 6, 2016

08:30 – 09:30	Keynote Speech: Prof. Philip Chen, Big Data Challenges, Techniques, Technologies, and Applications and How Deep Learning Can be Used Chair: Prof. Peter X. Liu (Room A)		
09:30 – 10:00	Coffee/Tea Break		
10:00 – 11:40	Session A7: Room A	Session B7: Room B	Session C7: Room C
11:40 – 12:00	Best Paper Awards and Closing Ceremony (Room A)		
12:00 – 13:00	Lunch Buffet (QianHu Hotel Western Restaurant)		

Note: Room A: The multi-function meeting room on the second floor
Room B: The executive meeting room on the second floor
Room C: The meeting room on the second floor in the neighbor building

A1 Collaboration Technology Applications in Aerospace, power, and Manufacturing

Chairs: Ning Gu / Xiantao Cai

- 102 Xiantao Cai, Sheng Wang, Xin Lu and Weidong Li. Parametric Encryption of CAD Models in Cloud Manufacturing Environment
- 133 Huping Yang, Huan Chen, Jiabin Peng and Zhentao Jiang. Research of Power Generation Right Transaction Scheduling Model Considering Carbon Emissions Constraints Blocking
- 142 Eying Wu, Peng Zhang, Tun Lu, Hansu Gu and Ning Gu. Behavior Prediction Using an Improved Hidden Markov Model to Support People with Disabilities in Smart Homes
- 143 Huping Yang, Feifei Yan, Xi Chen and Li Zhang. Study on the Optimization and Management of Electricity Purchase in Jiangxi Province Based on the Electricity Markets
- 145 Lei Mei, Jiquan Hu, Jianguo Yang and Jianming Yuan. Research on Parameters of EDEM Simulations Based on The Angle of Repose Experiment

A2 Collaboration Methods, Mechanisms, and Algorithms (1)

Chairs: Liang Gao / Yong Yu

- 9 Lucile Callebert, Domitile Lourdeaux and Jean-Paul Barthès. Trust-Based Decision-Making System for Action Selection by Autonomous Agents
- 10 Sheng Chu, Mi Xiao, Liang Gao, Lin Gui and Hao Li. An effective structural boundary processing method based on support vector machine for discrete topology optimization
- 11 Yong Hu, Zhihui Hu, Hongwei Ma, Pengpeng Yan and Yuan Liu. Finite Element Simulation of Axial Elastic Characteristics of Wire Rope With One Round Strand Layer
- 17 Tadeu Classe, Regina Braga, José Maria N. David, Fernanda Campos, Marco Antônio Araújo, Victor Ströele. A Collaborative Approach to Support e-Science Activities
- 20 Hao Fang, Fei Li, Min Liu, Feng Zhang and Weiming Shen. A Novel Adaptive Algorithm for Location based on Distance-Loss Model in Complex Environment
- 21 Jinyao Ji, Yongqin Sun, Tao Zhou and Jingwei Xu. Study on Method of Cooperative Laying Mines with Submarine and Reconnaissance Force based on Joint Blockade Combat

A3 Collaboration Methods, Mechanisms, and Algorithms (2)

Chairs: Xiaozhen Mi / You Song

- 23 Xizhe Yin ,Weiming Shen and Xianbin Wang. Incremental Clustering for Human Activity Detection Based on Smart Phone Sensor Data
- 32 Chong Su, Xiaozhen Mi and Feng Wang. Research on the Forming Mechanism of Ground Surface Based on Multi Abrasive Grains Cutting Simulation
- 38 Xiao Lv, Fazhi He, Weiwei Cai and Yuan Cheng. An efficient collaborative editing algorithm supporting string-based operations
- 44 Pei Xu, You Song and Li Hu. A Solution for Real-Time Web Collaborative Visualization of Trend Data
- 57 Xin Yan, Xianghua Ding and Ning Gu. Crowd Work with or without Crowdsourcing Platforms
- 60 Chen Gao, Haifeng Shen and M. Ali Babar. Concealing Jitter in Multi-Player Online Games through Predictive Behaviour Modeling

A4 Collaboration Methods, Mechanisms, and Algorithms (3)

Chairs: Yanjun Shi / Changqing Liu

- 69 Yu Meng Zhu, Xiao Dong Zhang and Yang Hu. Cluster Analysis of Participants of Open Source Design Community
- 70 Qiyuan Gong, Ming Yang, Zhouguo Cheny and Junzhou Luo. Utility Enhanced Anonymization for Incomplete Microdata
- 76 Yin Liang, Tong Zhang, Limin Chen, Bingen Li and Luping Zhou. A Hidden Markov Model Based Efficient Next Best Viewpoint Planning for Autonomous Exploration
- 81 Majd Saleh and Marie-Helene Abel. Moving from Digital Ecosystem to System of Information Systems
- 103 Wei Zhao, Yingguang Li, Changqing Liu and Weiming Shen. A cutting parameter optimization method based on dynamic machining feature for complex structural parts
- 105 Qiang Zhang, Pingmei Yuan, Qiyun Zhou and Zhiming Yang. Mixed Spatial-Temporal Characteristics Based Crime Hot Spots Prediction

A5 Collaboration Methods, Mechanisms, and Algorithms (4)

Chairs: Chengtao Cai / Yanni Zuo

- 108 Peng Yue, Yu Liu and Chengtao Cai. A Measurement Methods for Angular Motion of Body Rotation based on Only-Accelerometer Coplanar Configuration
- 116 Yanni Zou and Bo Liu. Survey on Clustering-Based Image Segmentation Technique
- 123 Cun Ji, Shijun Liu, Chenglei Yang, Lei Wu, Li Pan and Xiangxu Meng. A Piecewise Linear Representation Method Based on Importance Data Points for Time Series Data
- 131 Zhiqiang Zhang, Jianguo Hu, Xiaoqin Xie, Haiwei Pan and Xiaoning Feng. An Online Approximate Aggregation Query Processing Method Based on Hadoop
- 136 Rui Ding, Jia Zhu, Yong Tang, Xueqin Lin, Danyang Xiao and Haoye Dong. A Novel Feature Selection

- Strategy for Friends Recommendation
 140 Yuechang Liu, Hanghang Tong, Xie Lei and Yong Tang. Network Based Models and Path Based Features for Gene Prioritization
- A6 Collaborative Virtual Environments (image processing) (1)**
Chairs: Jie Liu / Yanni Zuo
 3 Taifeng Li, Quanke Pan, Liang Gao, Wenlong Li and Peigen Li. Normal Histogram-based Fruit Fly Optimization Algorithm for Range Image Registration
 51 Yibo Wang. An visual analysis system for exploring passenger flow information at multiple levels
 111 Kunyu Ye and Dan Yang. The Research of the SDK Based on the Virtual Surgery Simulation System
 115 Yulan Liu and Yi Long. Image Edge Extraction Based on Fuzzy Theory and Sobel Operator
 117 Yanni Zou and Xinqiang Liu. Research of Collision Detection of Soft Body in Virtual Environment
 121 Kun Zhuang, Jie Liu, Chunsheng Yang, Yubin Yang and Nan Jiang. Intelligent Stereo Camera Mobile Platform for Indoor Service Robot Research
- A7 Collaborative Virtual Environments (image processing) (2)**
Chairs: Yaoping Hu / Chengtao Cai
 73 Qidan Zhu Chuanjia Liu, and Chengtao Cai. A Novel Mismatching Elimination Algorithm Based on Distribution of Features
 75 Chengtao Cai, Hongri Zong and Baolu Zhang. Ship Diesel Engine Fault Diagnosis Based on the SVM and Association Rule Mining
 77 Chengtao Cai, An Liu and Baolu Zhang. Motion Deblurring From a Single Image
 78 Chengtao Cai, Pengfei Wang and Yanhua Liang. Fast Image Stitching Based On Improved SURF
 144 Aida Erfanian and Yaoping Hu. Multi-user Efficacy of Collaborative Virtual Environments
 147 Hong Yu, Chengtao Cai. An Adaptive Factor-based Method for Improving Dark Channel Prior Dehazing
- B1 Collaboration Technology Applications in Architecture, Engineering, and Construction**
Chairs: Weiming Shen / Yushan Pan
 37 Yushan Pan. Cooperative Systems for Marine Operations Using Actor-Network Design: A Discussion
 52 Zhe Sun, He Jin, Jianming Yong, Salim Al-Ismaïli, Changyin Li and Jun Shen. A High Availability Application Service Platform for Nuclear Power Enterprises
 71 Yanhua Liang, Chengtao Cai, Zhao Jie, Guoxiang Chang, Lihui, Wang and Xiaolong Lv. Local Environments modelling and path planning for Patrol Robot in the Substation
 86 Weiming Shen and Guy Newsham. Implicit Occupancy Detection for Energy Conservation in Commercial Buildings: A Review
 90 Weiming Shen and Guy Newsham. Smart Phone Based Occupancy Detection in Office Buildings
- B2 Collaboration Theories and Methodologies(1)**
Chairs: Chinghung Lee / Haifeng Shen
 2 Mehdi Gheisari, Ali Akbar Movassagh, Yongrui Qin, Jianming Yong, Xiaohui Tao, Ji Zhang, and Haifeng Shen. NSSSD:A New Semantic .Hierarchical Storage for Sensor Data
 5 Ling Li, Min Liu, Weiming Shen Guoqing Cheng and Feng Zhang.E-MRO service planning with uncertain constraints based on stochastic programming
 6 Jean-Paul Barthès, Lucile Callebert and Domitile Lourdeaux. Priority-based contextual local decision making in multi-agent systems
 13 Bo Jiao, Yuanping Nie, Chengdong Huang, Jing Du, Xunlong Pang and Xuejun Yuan. Calculating the weighted spectral distribution with 5-cycles
 31 . Amy J.C. Trappey, Luna W.L. Chen, Charles V. Trappey, Andy Y. T. Wang. Computer supported comparative analysis of technology portfolios for LTE-A patent pools
 66 Yuhui Wang, Chinghung Lee and Amy J.C. Trappey. Conceptual Thinking for Collaborative Service Design Engineering Framework
- B3 Collaboration Theories and Methodologies(2)**
Chairs: Alfonso Garcia Frey / Yaguo Lei
 45 Pengyu Du, You Song and Li Deng. A Real-Time Collaborative Framework for 3D Design based on HTML5
 46 Gaowei Xu, Min Liu, Fei Li, Feng Zhang, Weiming Shen. User Behavior Prediction Model For Smart Home Using Parallelized Neural Network Algorithm
 47 Alfonso Garcia Frey and Jean-Sébastien Sottet. The CAT Problem Space: Combining Collaborative Real-Time Algorithms and Asynchronous Transformations for Collaborative Modelling
 48 Wenchao Yi, Liang Gao, Yinzhi Zhou and Xinyu Li. Differential evolution algorithm with variable neighborhood search for hybrid flow shop scheduling problem
 50 Neng Hou, Fazhi He, Yilin Chen and Yi Zhou. A adaptive neighborhood taboo search algorithm on GPU for hardware/software co-design
 54 Yaguo Lei, Hongkai Shan, Feng Jia and Jing Lin. Reconstruction independent component analysis-based methods for intelligent fault diagnosis

B4 Collaboration Theories and Methodologies(3)

Chairs: Tun Lu / Wenan Tan

- 58 Wenan Tan, Huang Li and Tengting Shen Anqiong Tang . Hybrid Heuristics Miner Based on Time Series Prediction for Streaming Process Mining
- 59 Dayi Yang, Tun Lu, Huanhuan Xia, Bin Shao and Ning Gu. Making Itinerary Planning Collaborative: an AST-based Approach
- 61 Luyang Hou, Zhuangcheng Liu, Yanjun Shi and Xiaojun Zheng. Optimizing machine assignment and loop layout in tandem AGV workshop by co-evolutionary methodology
- 98 Haibo Yang, Pedro Antunes and Mary Tate. Towards a unified conceptualisation of agility: a design perspective
- 120 Fang Luo, Cheng Li and Zehui Cao. Affective-feature-based Sentiment Analysis using SVM Classifier
- 150 Jean-Paul Barthès and Márcio Fuckner. ONTOCODESIGN: Results from Using the CSCWD Ontology

B5 Cloud Computing for Collaboration(1)

Chairs: Pedro Antunes / Jie Zhu

- 7 Jie Zhu and Xiaoping Li. Elastic and Flexible Multi-stage Task Scheduling with Deadline-constraint in Clouds
- 8 Omar Ali, Jeffrey Soar and Jianming Yong. Improved Media Management through Cloud Computing Technology
- 29 Kitsiri Chochiang, Fouad Hanna, Marie-Laure Betbeder and Jean-Christophe Lapayre. A New Web-services Based Platform For Semantic Transliterated Words Searching to Facilitate Tourists Trips in Thailand
- 33 Claudio Sapateiro, Pedro Antunes, Ijeoma Enwereuzo, David Johnstone and José A. Pino. Teamwork Evaluation with a Microworld Platform
- 34 Zhen Chen, Limin Shen, Dianlong You and Feng Li. A User Dependent Web Service QoS Collaborative Prediction Approach Using Neighborhood Regularized Matrix Factorization

B6 Cloud Computing for Collaboration(2)

Chairs: Junzhou Luo / Hao Wang

- 35 Hao Wang, Chen Zhang, Siyu Lu, Qinyong Wang and Fanjiang Xu. Timing-IdeaGraph: A Directed Cognition Graph Approach for Decision Making Based on Temporal Event Sequences
- 42 Yue Wang, You Song and Mingyang Liang. A Skyline-based Efficient Web Service Selection Method Supporting Frequent Requests
- 53 Matthias Wenzel and Christoph Meinel. Full-Body WebRTC Video Conferencing in a Web-Based Real-Time Collaboration System
- 55 Jiyuan Shi, Fang Dong, Jinghui Zhang, Jiahui Jin and Junzhou Luo. Resource Provisioning Optimization for Service Hosting on Cloud Platform
- 63 Fuqiang Zhang and Lin Chen. OTP_SAM: DHCP security authentication model based on OTP
- 138 Yi Wei, Li Pan, Dong Yuan, Shijun Liu, Lei Wu and Xiangxu Meng. A Cost-Optimal Service Selection Approach for Collaborative Workflow Execution in Clouds

B7 Collaboration Technology Applications in Business and Administration

Chairs: Jano de Souza / Xiaoping Li

- 43 Wei Wang, Hao Fang and Bingyong Tang. A Capital Management Mode of Electronic Business Service for Chinese Medicine Trading
- 62 Wei Wang, Han Yuan and Bingyong Tang. Online Financing Service for Chinese Medicines Transactions
- 67 Ryosuke Takatsu, Yusaku Maki, Tomoo Inoue, Ken-Ichi Okada and Hiroshi Shigeno. Multiple Virtual Conductors Allow Amateur Orchestra Players to Perform Better and More Easily
- 141 Cheng Xun and Zhao Qiang. Facilitating Collaboration Management via Management-oriented DMU
- 130 Min Tu and Jianfeng Xu. Pengfei Diao A Method of Data's Security Transmission in WSN Based on Certificateless Signature Technology
- 83 Luiz Oliveira, Daniel Schneider, Filipe Oliveira, Sérgio Rodrigues and Jano de Souza. Designing for monitoring the waiting time of day-to-day services

C1 Collaboration Technology Applications in Logistics and Transportation

Chairs : Pedro Antunes / Hongwei Wang

- 12 Rong Zeng and Hanbin Xiao. Transportation Route Selection of Construction Logistics Based on Complex Network
- 49 Wenjing Guo, Wenfeng Li, Ye Zhong, Gabriel Lodewijks and Weiming Shen. Agent-based Negotiation Framework for Agricultural Supply Chain Supported by Third Party Logistics
- 80 Hongwei Wang, Oluwakemi Olayinka, Heming Zhang and Qian Shi. Integrating the Codification and Personalisation Views of Knowledge for Collaborative Design
- 89 Peng Yue , Yu Liu and Chengtao Cai. A non-linear combination filtering algorithm in MINS/GNSS navigation system
- 127 Yahui Lu, Haofei Yu, Zhong Ming and Hui Wang. A Similarity Measurement Based-on Structure of

- Business Process
- 96 Nguyen Hoang Thuan, Pedro Antunes and David Johnstone. Pilot Experiments on a Designed Crowdsourcing Decision Tool
- C2 Collaboration Technology Applications in Social Networks and Education**
- Chairs: Yuqing Sun / Jianming Yong**
- 85 Hongli Zhou, Xiaodong Zhang, Yang Hu and Dongfang Zhao. Influence Study of Participants' Characteristics on Project Evolution in Open Source Community Based on Agent-based Simulation
- 93 Taotao Ma, Hua Wang, Jianming Yoong, Jinli Cao and Yueai Zhao. Access control for provenance in the healthcare environment
- 126 Yong Sun, Wenan Tan, Quanquan Zhang and Wenan Tan. An Efficient Algorithm for Crowdsourcing Workflow Tasks to Social Networks
- 129 Yi Xie, Yuqing Sun and Lei Shen. Predicating Paper Influence in Academic Network
- 74 Shibo Wang, Wenyan Wang, Yang Yu and Han Han. Construction of Virtual Organization based on Social Context
- C3 Workshop on IWCD**
- Chairs: Wenfeng Li / Zhelong Wang**
- 64 Zhangwei Yang and Shaobin Huang. Value-Added Development of Government Information Resources of A Smart City: A Case Study
- 88 Jiaxin Wang, Zhelong Wang, Hongyu Zhao, Sen Qiu. Human Motion Phase Segmentation Based on Three New Features
- 106 Hongliang Ren, Xiaoyi Gu and Koon Lin Tan. Human-Compliant Body-Attached Soft Robots Towards Automatic Cooperative Ultrasound Imaging
- 134 Yali Zheng and Carmen C.Y. Poon. Wearable Devices and Their Applications in Surgical Robot Control and p-Medicine
- 148 Congcong Ma, Wenfeng Li, Raffaele Gravina and Giancarlo Fortino. Activity Recognition and Monitoring for Smart Wheelchair Users
- C4 Communication Support Systems for Collaborative Work**
- Chairs: Hongliang Ren / Yali Zheng**
- 95 Ziyang Chen, Yunpeng Hu and Caiyao Shen. Joint Estimation and Detection algorithm for Co-Channel signals in randomly distributed sensor array
- 110 Qiang Zhang, Pingmei Yuan, Qiyun Zhou and Zhiming Yang. Study on the AHP Model Driven by 4 Elements of the Public Security Prevention and Control
- 114 Yan Cheng and Yan Zeng. Study on the Influencing Factors of Students' Learning Effects in Virtual Learning Community.
- 118 Shichao Liu, Peter Xiaoping Liu and Xiaoyu Wang. Effects of Cyber Attacks on Islanded Microgrid Frequency Control
- 122 Qixin Zhu, Wei Xiong, Hongli Liu, Yonghong Zhu and Guangming Xie. A Brief Review of Underwater Electric Current Communication
- 137 L.X. Chen, J. Zhu, Y. Tang, G. Fung, W.H. Wong and Z.X. Li. The Strength of Social Networks – Connecting People And Enhancing Relationship
- C5 Data Analysis for Cooperative Work**
- Chairs: Chunsheng Yang / Victor Ströele**
- 19 Chunsheng Yang, Qiangqiang Chen, Yubin Yang and Nan Jiang. Developing predictive models for time to failure estimation
- 30 Eric Trudel, Chunsheng Yang and Yan Liu. Data-Driven Modeling Method for Analyzing Grade Crossing Safety
- 56 Meng Zhao, Chen Zhang, Siyu Lu and Hui Zhang. STeller: An Approach for Context-Aware Story Detection Using Different Similarity Metrics and Dense Subgraph Mining
- 68 Tássio De O. S Auad, Luiz Felipe Carvalho Mendes, Victor Ströele and José Maria N. David. Improving the User Experience on Mobile Apps Through Data Mining
- 87 Esunly Medina, Davide Vega, Roc Meseguer, Humberto Medina, Sergio Ochoa and Matteo Magnani. Using Indirect Blockmodeling for Monitoring Students Roles in Collaborative Learning Networks
- 135 Hu-Ping Yang, Hua Wang, Fei-Fei Yan, Li Zhang. Short-term load forecasting based on Data Mining
- 28 Daiane E. Ferreira, Carlos Eduardo Barbosa, Jonice Oliveira and Jano de Souza. Analyzing the collaborative aspects of the Futureoriented Technology Analysis
- C6 Workshop on IOT**
- Chairs: Antonio Guerrieri / Chen Yang**
- 39 Chen Yang, Weiming Shen and Xianbin Wang. Applications of Internet of Things in Manufacturing
- 40 Chen Yang, Weiming Shen, Xianbin Wang, Tingyu Lin and Yingying Xiao. A Formulation for IoT-enabled Dynamic Service Selection across Multiple Manufacturing Clouds
- 94 Yufan Deng, Wei Zheng and Qian Pan. Performance evaluation of fractal dimension method based on

- box-covering algorithm in complex network
- 139 Aftab Akram, Chengzhou Fu, Yong Tang, Yuncheng Jiang and Xueqin Lin. Exposing the Hidden to the Eyes: Analysis of SCHOLAT E-Learning Data
- 149 Franco Cicirelli, Giancarlo Fortino, Antonio Guerrieri, Giandomenico Spezzano and Andrea Vinci. A Meta-Model Framework for the Design and Analysis of Smart Cyber-Physical Environments

C7 Collaborative Systems for Activity Recognition

Chairs: Jean-Paul Barthès / Jun Shen

- 22 Ning Wang, Marie-Helene Abel, Jean-Paul Barthès and Elsa Negre. An Answerer Recommender System Exploiting Collaboration in CQA Services
- 92 Alva Muhammad, Qingguo Zhou, Ghassan Beydoun, Dongming Xu and Jun Shen. Learning Path Adaptation in Online Learning Systems
- 100 Yichen Xie. Interactive Image Retrieval System Based On Multi-feature
- 112 Wenfeng Liu and Song Xu. Application of Two-stage Fuzzy Pattern Recognition Model in the Optimization of Headphones
- 113 Xingqiang Zhang and Jiajun Ding. An Improved Adaboost Face Detection Algorithm Based on the Different Sample Weights
- 25 Victor Ströele, Fernanda Campos, Crystiam Kelle Pereira, Geraldo Zimbrão and Jano M. de Souza. Information Extraction to Improve Link Prediction in Scientific Social Networks