

Annual Report of the McLeod Institute of Simulation Sciences

Center

2012-2013 Annual Report of BUAA CENTER of MISS

Center Postal Address:	BUAA CENTER of MISS School of Automation Science and Electrical Engineering 37 XueYuan Road HaiDian District, Beijing ,P.R.China,100191
Center Director:	Professor Chuanyuan Wen: Honoured Director Professor Bohu Li : Director Professor Xingren Wang : Co-Vice-Director Professor Guanghong Gong: Co-Vice-Director Professor Lin Zhang: Co-Vice-Director
Center Phone:	+86-10-82339958
Center Fax:	+86-10-823217322
Center E-mail:	astlab@buaa.edu.cn , Bohuli@moon.bjnet.edu.cn ggh@buaa.edu.cn
Center Web Address:	http://astlab.buaa.edu.cn/miss2.htm
List of Research Activities & Projects - Subject - Type [Topic/Project] - Description - Year	Please see list 1
List of Educational - Title - Type [University Course/Professional Course] - Year	Please see list 2
Center publications	Please see list 3
Center simulation tools	AST-RTI ToolKit AST-CGF System Framework AST_SBA platform AST_VR platform
Center highlights	

list 1 Research Activities & Projects

Subject	Type	Reference	Years
Complicated System Simulation Methodology	project	Bo Hu Li, Lin Zhang, Xudong Cai	2011-2015
Advanced high performance and Intelligent Simulation support Platform	project	Bo Hu Lii, Lin Zhang	2011-2013
Simulation Based Acquisition and Its Demonstration system	project	Xudong Cai	2011-2015
Virtual Reality Technology	project	NiLi, Ying Ding, Guanghong Gong	2011-2015
Motion Data capture and modeling of human Activity	Topic	Guanghong Gong, Xiao Song	2009-2012
Simulation System Framework and support Platform	project	Bo Hu Li, Guanghong Gong, Ni Li	2011-2015
FEM Model research of Aircraft	project	Guanghong Gong	2010-2012
Cloud Simulation and Cloud Manufacturing	project	Lin Zhang, Bohu Li	2010-2012
The Common Computer Generated Forces technology	project	Guanghong Gong, Yaofei Ma	2011-2015
SNE and its Simulation	Project	Jiangyun Wang	2011-2015
Environment Scenario Generation System Research	Project	Jiangyun Wang	2011-2013
Intelligent Expert System for Complex Product Design	Project	Lin Zhang	2010-2014
Model Engineering for Complex System Simulation	Project	Lin Zhang	2011-2013
High Performance Simulation System	Project	Bo Hu Li, Lin Zhang, Xiao Song, Ni Li, Fei Tao	

List 2 Educational Activities

Title	Type	Reference	Years
Motion Modeling and Simulation of Aircraft	University Course	Jiangyun Wang	2006-2013
Flight Real Time Simulation System and Technology	University Course	Li Liu, Jiangyun Wang	2000-2013
VR Technology	University Course	Xiaoyong Lei, Shuling Dai	2000-2013
Series Experiments of Advanced Simulation Technology	University Course	Xiuzhi Li, Li Liu, Jiangyun Wang, Ying Ding ,etc.	2004-2013
Advanced Simulation Technology Basis	University Course	Liang Han	2000-2013
Modern Simulation Technology	University Course	Guanghong Gong, Liang Han, Lin Zhang	2007-2013
Electric Circuit	University Course	Guanghong Gong	2000-2013
Electronic Technique Basis	University Course	Liang Han	2000-2013
Micro-Computer Theory and Interface Technique	University Course	Li Liu, Xin Lin, Ni Li	2000-2013
C/C++ Language	University Course	Xiao Song	2007-2013
Information Technology Basis	University Course	Lin Zhang, Fei Tao	2010-2013
3D Modeling Technique Experiment	University Course	Ying Ding	2007-2013
HLA/RTI Technique and Application Experiment	University Course	Ying Ding	2007-2013
Integration technique of Information System	University Course	Fei Tao, Lin Zhang	2012-2013
Network Technology and its application	University Course	Yaofei Ma	2010-2013
Service Calculation technology	University Course	Fei Tao	2011-2013
System Modeling & Simulation	University Course	Xiao Song	2012-2013
Intelligent System Simulation Technology	University Course	Yaofei Ma	2012-2013
Virtual Prototyping Technique of Aircraft	University Course	Ni Li	2012-2013
Modeling technique of virtual environment	University Course	Jiangyun Wang, Guanghong Gong	2012-2013

List 3 Publications

No	Title	Authors	Publication	Time	remark
1.	Chinese-English English-Chinese Modeling and Simulation Dictionary	Bohu Li, etc.	The Science press, China	June,2012	Dictionary
2.	Real-time Rendering and Animating of Grass	Li Feng , Ding Ying , Yan Jin	AsiaSim2012	Oct 2012	EI20124515647641
3.	Research on Automatic Large Scale Terrain Modeling	Liu Bo ,Ding Ying , Yan Jin	AsiaSim2012	Dec 2012	EI20124515647639
4.	Development and application of intelligent system modeling and simulation platform	Li Ni ,Yi Wenqing , Sun Minghui , Gong Guanghong	Simulation Modelling Practice and Theory	Dec 2012	SCI 032ZY EI20124215577549
5.	Research on IDEF0 and UML combination based modeling of equipment support	Wang Haihong , Gong Guanghong , Xie Jiayu ,Cai Shu , Zheng Yicheng	Asia Simulation Conference 2012	Oct 2012	EI20124515647527
6.	Role-based vehicle-level CGF entity model code framework	Song Xiao , Shi Xuecheng , Gong Guanghong , Qian Lidong , Zhang Shaoyun	Asia Simulation Conference 2012	Oct 2012	EI20124515647470
7.	Design and implementation of a mathematical simulation platform	Wang Jianxiang , Gong Guanghong , Ma Yaofei , Wang	2012, System Simulation and Scientific Computing - International Conference	Oct 2012	EI20124515650070

		Haihong , Dong Dezhi			
8.	A framework for interval-valued information system	Yin Yunfei , Gong Guanghong , Han Liang	INTERNATIONAL JOURNAL OF SYSTEMS SCIENCE	Sept 2012	SCI 974DF EI20123015272120
9.	Modeling and Simulation for Complex Network based Military System-of-Systems (SoS)	Song Xiao , Liu Bingcheng , Gong Guanghong	ICETI	2012	EI20120114653651
10.	Multi-aircraft Cooperative Target Allocation in BVR Air Combat Using Cultural-Genetic Algorithm	Li Ni , Yi Wenqing , Gong Guanghong	The International Conference on System Simulation and Scientific Computing 2012	Oct 2012	EI20124515650148
11.	Multi-resolution path planning for miniature air vehicles with wind effect	Gao Dongdong , Gong Guanghong , Wang Jiangyun , Han Liang	IEEE International Conference on Industrial Informatics	Aug 2012	EI20124515642462
12.	Research on key techniques for multi-projector display wall	Song Zijian , Gong Guanghong	IEEE International Conference on Industrial Informatics (INDIN)	Aug 2012	EI20124515642474
13.	Pseudo-coloring occlusion culling	Yan Jin , Gong Guanghong	Asia Simulation Conference 2012, Proceedings	Oct 2012	EI20124515647644
14.	Research on modeling and application of synthetic natural environment	Lv Zhenhua ,Gong, Guanghong	Asia Simulation Conference 2012, Proceedings	Oct 2012	EI20124515647501
15.	RESEARCH PROGRESS IN TEAMWORK	Ma,Y.F. , Chou, C.H. , Gong, G.H.	ICCASM 2011	2012	EI20123115285809
16.	Research on run-time atmosphere environment database based on	Zhang Jinzhan , Gong	2012, System Simulation and Scientific Computing - International Conference	Oct 2012	EI20124515650109

	Berkeley DB	Guanghong , Wang Jiangyun , Gao Dongdong			
17.	An aircraft-propulsion geometry/performance collaborative design method	Tian Chao , Gong Guanghong	IEEE International Conference on Industrial Informatics	Aug 2012	EI20124515642519
18.	Simulation Model Validation Method Based on Functional Analysis	Li Congmin ,Wang Jiangyun , Han Liang ,Dong Dezhi	Asia Simulation Conference 2012 Proceedings. Shanghai, China: Springer, 2012	Oct 2012	EI20124515647524
19.	Model Driven Platform of Combat Simulation System based on HLA	Kong Haipeng , Li Ni , Han Liang , Wang Chao	IEEE 10th International Conference on Industrial Informatics	Dec 2012	EI20124515642536
20.	Study on General Effectiveness Evaluation Platform for Combat Aircraft	Wang Chao , Li Ni , Kong Haipeng , Li, Huifeng	ICSC2012	Dec 2012	EI20124515650054
21.	Interactive Data Encryption Strategy for Distributed Simulation System	Lin Xin	AsiaSim	Oct 2012	
22.	Weapon Target Assignment Decision Based on Markov Decision Process in Air Defense	Ma Yaofei , Chou Chaohong	ICSC 2012	Oct 2012	EI20124515650139
23.	A Transmission Particle Model for Electromagnetic Calculation and its Simulation Verification	Ren Lei, Lin Zhang	Asia Simulation Conference	Oct 2012	
24.	CLOUD MANUFACTURING PLATFORM	Ren Lei, Lin Zhang	The 24th European Modeling & Simulation Symposium	Sep 2012	EI20125215846183

	ARCHITECTURE				
25.	Massive sensor data management framework in Cloud Manufacturing based on Hadoop	Bao Yuan , Ren Lei , Zhang Lin , Zhang Xuesong , Luo Yongliang	IEEE International Conference on Industrial Informatics	Aug 2012	EI20124515642553
26.	A methodology toward virtualisation-based high performance simulation platform supporting multidisciplinary design of complex product	Ren Lei , Zhang Lin , Tao Fei , Zhang Xiaolong , Luo Yongliang , Zhang Yabin	Enterprise Information Systems	2012	
27.	Computing Load Curve based Virtual Machine Placement for Collaborative Simulation	Ren Lei, Lin Zhang	IEEE International Conference on Industrial Informatics	Aug 2012	
28.	Architecture of hybrid cloud for manufacturing enterprise	Mai Jingeng , Zhang Lin , Tao Fei , Ren Lei	Asia Simulation Conference	Oct 2012	EI20124515650084
29.	Key technologies of manufacturing capability modeling in cloud manufacturing mode	LUO Yong-liang , ZHANG Lin , TAO Fei , ZHANG Xue-song , REN Lei ,	Computer Integrated Manufacturing Systems	July 2012	
30.	HLA Collaborative Simulation Oriented Virtual Machine Task Scheduling Strategy	Ren Zhiyun , Song Xiao ,Zhang Lin , Zhang Shaoyun	AsiaSim2012	Oct 2012	EI20124515647602

31.	Computing Load Curve based Virtual Machine Placement for Collaborative Simulation	Song Xiao	IEEE International Conference on Industrial Informatics	Sep 2012	
32.	Computing Load Curve based Virtual Machine Placement for Collaborative Simulation	Song Xiao	IEEE International Conference on Industrial Informatics	Aug 2012	
33.	Utility modeling, equilibrium and collaboration of resource service transaction in service-oriented manufacturing	Tao Fei, Lin Zhang	Proc. IMechE Part B: J Engineering Manufacturing	July 2012	
34.	Research on measurement method of resource service composition flexibility in service-oriented manufacturing system	Guo, H. , Tao, F. , Zhang, L. , Laili, Y.J. , Liu, D.K.	International Journal of Computer Integrated Manufacturing	Dec 2012	SCI 914AN EI20120514733893
35.	Modeling and High Performance Computing Analysis of Three-Dimensional Electromagnetic Environment	Wu, Yingnian , Zhang, Lin , Tao, Fei , Shen, Yuewei , Liu, Dengkun ,Mu, Lan	AsiaSim_2012	Oct 2012	EI20124515650135
36.	Modelling of combinable relationship-based composition service network and theoretical proof of its scale-free characteristics	Tao Fei , Guo Hua , Zhang Lin , Cheng Ying	Enterprise Information Systems	Dec 2012	SCI 990OP EI20123315337587
37.	Analysis of cloud service transaction in cloud manufacturing	Cheng Ying , Zhang Yue , Lv Lin , Liu Jiarui , Tao Fei ,Zhang Lin	IEEE 10th International Conference on Industrial Informatics	Dec 2012	EI20124515642573

38.	Study on the description method of manufacturing capability based on description logics in cloud manufacturing	Luo Yongliang , Zhang Lin , Tao FeiLiu , Yongkui , Ren Lei	EMSS2012,Austria,Vienna	Sep 2012	EI20125215846135
39.	Resource Service Management of Cloud Manufacturing Based on Knowledge	HU Anrui ,ZHANG Lin ,TAO Fei ,LUO Yongliang	JOURNAL OF TONGJI UNIVERSITY(NATURAL SCIENCE)	July 2012	
40.	A study of optimal allocation of computing resources in cloud manufacturing systems	Laili Yuanjun , Tao Fei , Zhang Lin , Sarker , Bhaba R.	International Journal of Advanced Manufacturing Technology	Oct 2012	SCI 026ZE EI20124815739378
41.	Framework of Evaluation System for Energy-Saving and Emission-Reduction based on BOM	Lv Lin , Tao Fei , Zhang Huiping , Huang Wei , Zhang Lin	the IEEE 10th International Conference on Industrial Informatics	July 2012	EI20124515642518
42.	Architecture of hybrid cloud for manufacturing enterprise	Mai Jingeng , Zhang Lin , Tao Fei , Ren Lei	Asia Simulation Conference	Oct 2012	EI20124515650084
43.	Key technologies of manufacturing capability modeling in cloud manufacturing mode	LUO Yong-liang , ZHANG Lin , TAO Fei1 , ZHANG Xue-song , REN Lei	Computer Integrated Manufacturing Systems	July 2012	
44.	Research of Energy Saving and Emission Reduction Evaluation System	TAO Fei , LV Lin , HUANG Wei ,	Journal of Huangshi Institute of Technology	Dec 2012	

	Based on BOM	ZUO Ying , ZHOU Jian , ZHANG Lin , HUANG Xiaorong			
45.	Does migration cost influence cooperation among success-driven individuals	Liu Yongkui , Chen Xiaojie , Zhang Lin , Tao Fei , Wang Long	Chaos, Solitons & Fractals	Nov 2012	SCI 036IE EI20124315591903
46.	Energy Consumption evaluation and application of cloud manufacturing resource service	XIANG Feng , HU Ye-fa , TAO Fei , ZHANG Lin	Computer Integrated Manufacturing Systems	July 2012	
47.	A Simulation Model Validation Method Based on Functional Data Analysis	Li Congmin , Wang Jianguyun , Han Liang , Dong Dezhi	Asia Simulation Conference 2012	Dec 2012	EI20124515647524
48.	A Simulation Model Validation Method Based on Design of Experiments	Dong Dezhi , Wang Jianguyun , Zhang Ping	Asia Simulation Conference 2012 Proceedings. Shanghai, China: Springer, 2012	Dec 2012	EI20124515647514
49.	Clock Synchronization Method for Distributed Real-time Simulation Based on Multilayer Network Architecture	Wang Xinbo , Wang Jianguyun	Asia Simulation Conference 2012 Proceedings. Shanghai, China: Springer, 2012	Dec 2012	EI20124515647634
50.	Quantization Based Real-Time Simulation of Continuous System in Distributed Environment	Zhang Wei , Wang Jianguyun	Asia Simulation Conference 2012 Proceedings. Shanghai, China: Springer, 2012	Dec 2012	EI20124515647597
51.	Reliability of Wireless Sensor Network: Hotspot and critical challenges	Yao Nan , Wang Shaoping , Shang Yaoxing , Shi Jian	INDIN 2012	July 2012	EI20124515642634

52.	Flux Field Formulation and Back-iron Analysis of Tubular Linear Machines	Yan Liang , Hu Jie , Yao Nan , Jiao Zongxia , Chen I-Ming , Lee Kok-Meng	IEEE Transactions on Magnetics	Nov 2012	SCI 012MF EI20124015534484
53.	Magnetic Field Analysis of Electromagnetic Spherical Actuators with Multiple Radial Poles	Yan Liang , Meng Hongjun , Yao Nan , Jiao Zongxia	Proceedings of 2012 10th IEEE International Conference on Industrial Informatics (INDIN)	July 2012	EI20124515642622
54.	Force formulation of a three-phase tubular linear machine with dual Halbach array	Zhang Lei , Yan Liang , Yao Nan , Wang Tianyi , Jiao Zongxia , Chen I-Ming	Proceedings of 2012 10th IEEE International Conference on Industrial Informatics (INDIN)	July 2012	EI20124515642616
55.	HLA Collaborative Simulation Oriented Virtual Machine Task Scheduling Strategy	Ren Zhiyun , Song, Xiao , Zhang, Lin , Zhang, Shaoyun	AsiaSim2012	Oct 2012	
56.	Study on parallel methods of three-dimension parabolic equation for complex electromagnetic environment simulation	Shen Yuewei , Zhang Lin	SummerSim 2012	July 2012	EI0125115813771
57.	Analyzing effects of ankle-foot parameters on passive bipeds based on dynamic walking modeling	Mai Jingeng , Gao Yue , Huang Yan , Wang Qining , Zhang Lin	Asia Simulation Conference (AsiaSim_2012)& the International Conference on System Simulation and Scientific Computing	Oct 2012	EI20124515647476

58.	Win-Stay-Lose-Learn Promotes Cooperation in the Spatial Prisoners Dilemma Game	Liu, YK , Chen, XJ , Zhang, L , Wang, L , Perc, M	PLoS ONE	Aug 2012	SCI 926TC
59.	Utility modeling, equilibrium and collaboration of resource service transaction in service-oriented manufacturing	Zhang Lin	Proc. IMechE Part B: J Engineering Manufacturing	July 2012	
60.	Methods to Improve Accuracy and Speed for the Quasi-3D Electromagnetic Environment Simulation	Shen Yuewei , Zhang Lin , Wu Yingnian ,Mu Lan , Lv Yandong	Asia Simulation Conference (AsiaSim_2012) & the International Conference on System Simulation and Scientific Computing	Oct 2012	EI20124515647660
61.	A Transmission Particle Model for Electromagnetic Calculation and its Simulation Verification	Zhang Lin	Asia Simulation Conference	Oct 2012	
62.	Heuristic quantum genetic algorithm for air combat decision making on cooperative multiple target attack	Kong Haipeng , Li Ni	International Journal of Modeling, Simulation, and Scientific Computing	2013	in press
63.	A new methodology to support group decision-making for IoT-based emergency response systems	Li Ni , Sun Minghui , Bi Zhuming , Su Zeya ,Wang Chao	Information Systems Frontiers	2013	in press
64.	The implementation and validation of multidimensional kalman filter in SoC system	Zhang Qing Zhen , Jiang Peng Long , Liu Zhun , Wang Cong ,Tao	Advanced Materials Research	Mar 2013	EI20132416421314

		Fei			
65.	Multiple faults detection with SoC dynamic reconfiguration system based on FPGA	Wang Cong , Liu Yi Long , Jiang Peng Long ,Zhang Qing Zhen , Tao Fei , Zhang Lin	Advanced Materials Research	Mar 2013	EI20132416420920
66.	A ranking chaos algorithm for dual scheduling of cloud service and computing resource in private cloud	Laili Yuanjun , Tao Fei , Zhang Lin , Cheng Ying , Luo Yongliang , Sarker Bhaba R.	Computers in Industry	May 2013	SCI 137VA EI20131616206949
67.	On-line optimization design of sliding mode guidance law with multiple constraints	Zhang Q.Z. ,Wang Z.B. , Tao F. , Sarker Bhaba R.	Applied Mathematical Modelling	2013	in press
68.	Design and analysis of tubular linear machines with dual halbach arrays	Yan Liang , Zhang Lei ,Yao Nan ,Jiao Zongxia , Chen I.-Ming , Chen Chin-Yin	Applied Mechanics and Materials	2013	EI20130816041138
69.	Decentralized stabilizability of multi-agent systems under fixed and switching topologies	Guan Yongqiang , Ji Zhijian , Zhang Lin , Wang Long	Systems and Control Letters	2013	EI20131516188521
70.	Layered simulation service description framework oriented to cloud simulation	LI Tan , LI Bo-hu , CHAI Xu-dong	2012	Computer Integrated Manufacturing Systems	EI20124615671312

71.	Convergence analysis of shuffled frog leaping algorithm and its modified algorithm	Xiao Yingying , Chai Xudong , Li Bohu , Wang Qiusheng	2012	Journal of Huazhong University of Science and Technology (Natural Science Edition)	EI20123715424685
72.	Cloud manufacturing oriented cloud simulation supporting framework and its application process model	YANG Chen , LI Bo-hu , CHAI Xu-dong , ZHANG Fa-guang , LIN Ting-yu , ZHANG Ya-bin ,	2012	Computer Integrated Manufacturing Systems	EI20123815450432
73.	Typical characteristics , technologies and applications of cloud manufacturing	LI Bo-hu , ZHANG Lin , REN Lei , CHAI Xu-dong , TAO Fei , WANG Yong-zhi , YIN Chao , HUANG Pei , ZHAO Xin-pei , ZHOU Zu-de	2012	Computer Integrated Manufacturing Systems	EI20123815450422
74.	Cloud manufacturing oriented automatic composition technology of models	LIN Ting-yu , LI Bo-hu , CHAI Xu-dong , LI Tan	2012	Computer Integrated Manufacturing Systems	EI20123815450425
75.	Research on High-Efficiency Simulation	Li Bohu , Chai	2012	Journal of CAEIT	

	Technology of Complex System	Xudong , Li Tan , Hou Baocun , Lin Tingyu , Xing Chi , Yao Yiping ,Zhang Lin			
76.	Research and application on ontology-based layered cloud simulation service description framework	Li Tan , Chai Xudong , Hou Baocun , Li Bohu	May 2013	2013 ACM SIGSIM Conference on Principles of Advanced Discrete Simulation, SIGSIM-PADS 2013	EI20132416414220
77.	The application of dynamical management based on ontology-based simulation case-based description and reasoning	Gong Xiayi , Li Bohu , Chai Xudong , Zhang Yabin , Gu Mu	Oct 2012	Communications in Computer and Information Science	EI20124515647600