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## 关永教授

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CV in English

### 一、个人简介:

关永, 男, 1966年6月出生, 博士学历, 教授, 博士生导师。教育部计算机教学指导委员会委员, 现任首都师范大学信息工程学院院长、“高可靠嵌入式系统技术”北京市工程研究中心主任, “电子系统可靠性技术”北京市重点实验室主任; 中国电子学会嵌入式系统专委会委员、航空信息融合专委会委员。近5年主持国家国际科技合作计划项目、国家自然科学基金项目、国防科工委卫星型号关键技术攻关项目、北京市自然科学基金重点项目等9项, 发表学术论文150余篇, 其中80余篇论文被SCI、EI检索。获得发明专利6项, 实用新型专利11项。2008年获得北京市科学技术二等奖, 2010年获得北京市科学技术三等奖。

国外主要合作伙伴: 加拿大Concordia大学、美国波特兰州立大学、美国马里兰大学、美国田纳西州立大学、美国Ridgetop公司、澳大利亚新南威尔士大学、香港理工大学等。

研究方向: 电子系统健康状态预测与管理、形式化验证、高可靠嵌入式系统。

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### 二、主讲课程

主讲《信息科学导论》、《人工智能》、《数据库新技术》等课程。

### 三、科研项目

项目名称	主持	项目时间	项目来源
系统形式化验证及性能分析关键技术合作研究 (2011DFG13000)	关永	2011.01-2014.12	国际科技合作项目
Key technology of formal verification and performance analysis for system of chip			
苛刻环境高可靠电子系统的电源健康状况预测机制研究(61070049)	关永	2011.01-2013.12	国家自然科学基金项目
Research Mechanism for the Power Supply Prognostics and Health Management of High Reliability Electronic Systems in Rugged Environment			

苛刻环境嵌入式系统高可靠串行通信抗干扰机制及验证(2010DFB10930)	关永	2010.01-2012.12	国际科技合作项目
Mechanism and Verification of High-speed Embedded Communication Systems in Rugged Environment			
嵌入式系统苛刻环境抗辐照高速通信机制与算法的研究(60873006)	关永	2009.01-2011.12	国家自然科学基金项目
Research for Communications Mechanism and Arithmetic of Radiation Hardened High-speed Bus Base on Embedded System in Ruggedly Environment			
恶劣环境抗辐照高可靠通信系统研究(KZ200910028007)	关永	2009.01-2011.12	北京市自然科学基金重点项目B类
Research for Communications Mechanism and Arithmetic of Radiation Hardened High-speed Bus Base on Embedded System in Ruggedly Environment			
苛刻环境嵌入式系统抗干扰通信机制与算法的研究(4082009)	关永	2008.01-2010.12	北京市自然科学基金项目
Research for Communications Mechanism and Arithmetic of Radiation Hardened High-speed Bus Base on Embedded System in Ruggedly Environment			
SST高速总线点对点通信研究	关永	2005.05-2007.04	国防科工委卫星型号项目
Research for Communications Mechanism and Arithmetic of Radiation Hardened High-speed Bus Base on Embedded System in Ruggedly Environment			

#### 四、近两年发表论文

##### 2011年文章

1. Z. Qin, Y. Wang, D. Liu, Z. Shao and Yong Guan, "MNFTL: An Efficient Flash Translation Layer for MLC NAND Flash Memory Storage Systems", 48th IEEE/ACM Design Automation Conference (DAC 2011), San Diego, CA, USA, June 5-10, 2011.
2. D. Liu, Y. Wang, Z. Qin, Z. Shao and Y. Guan. A Space Reuse Strategy for Flash Translation Layers in SLC NAND Flash Memory Storage Systems. Submitted to IEEE Transaction on VLSI Systems (TVLSI), 2011.
3. Z. Qin, Y. Wang, D. Liu and Z. Shao, "Demand-Based Block-Level Address Mapping in Large-Scale NAND Flash Storage Systems", In CODES+ISSS '10: Proceedings of ACM International Conference on Hardware-Software Codesign and System Synthesis in conjunction with Embedded Systems Week 2010, Scottsdale, Arizona, Oct. 24-29, 2010.
4. M. Liu, D. Liu, Y. Wang, M. Wang, Z. Shao, "On Improving Real-Time Interrupt Latencies of Hybrid Operating Systems with Two-Level Hardware Interrupts" Accepted in IEEE Transactions on Computers (TC).
5. Z. Qin, Y. Wang, D. Liu and Z. Shao, "A Two-Level Caching Mechanism for Demand-Based Page-Level Address Mapping in NAND Flash Memory Storage Systems", 17th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2011) in conjunction with Cyber-Physical Systems Week (CPSWEEK 2011), Chicago, IL, USA, April 11 - 14, 2011.
6. Y. Wang, D. Liu, Z. Qin and Z. Shao, "An Endurance-Enhanced Flash Translation Layer via Reuse for NAND Flash Memory Storage Systems", 14th Design, Automation and Test in Europe (DATE 2011), 14-18 March, 2011, Grenoble, France.
7. Zhou Shihong, Guan Yong, Wu Lifeng, Pan Wei, Design and realization of DC-DC converter life prediction system based on LabView, Journal of Convergence Information Technology, 2011, 6(11):300-308 (EI Accessionnumber:20114814564603)
8. 周士红, 吴立锋, 关永, 杜银瑜, 潘巍, 电容劣化对DC-DC电源寿命影响仿真系统, 《计算机工程与应用》, 第47卷第31期, pp234-237, 2011.
9. Yinyu Du, Yong Guan, Lifeng Wu, Wei Pan, Guohui Wang, Shihong Zhou, The impact of MOSFET and electrolytic capacitor on the DC-DC converter, International Journal of Advancements in Computing Technology(IJACT) Volume 3, Number 8, September 2011, DOI: 10.4156/ijact.vol3.issue8.20.
10. Yong Guan, Jingling Xue, Leakage-Aware Modulo Scheduling for Embedded VLIW Processors, Journal of Computer Science and Technology Volume 26, Number 3, 405-417, DOI: 10.1007/s11390-011-1143-6, 2011.
11. Guan Yong, Jin Shengzhen, Wu Lifeng, Pan Wei, Liu Yongmei, Zhang Jie, Power supply prognostics and health management of high reliability electronic systems in rugged environment, Key Engineering Materials, Volume:474-476, Pages:1195-1200, ISSN:10139826, 2011.
12. Dai Zhiquan, Guan Yong, Jin Shengzhen, Shi Zhiping, Li Xiaojuan, Zhang Jie, SpaceWire state machine verification based on model checking, Applied Mechanics and Materials, Volume:55-57, 2011.

##### 2010年文章

1. Yi Wang, DuoLiu, Meng Wang, ZhiweiQin, ZiliShao and Yong Guan, RNFTL: A Reuse-Aware NAND Flash Translation Layer for Flash Memory, LCTES '10 Proceedings of the ACM SIGPLAN/SIGBED 2010 conference on Languages, compilers, and tools for embedded systems, 2010.

2. Anderson Kuei-An Ku, Jingling Xue, Yong Guan, Gather/scatter hardware support for accelerating Fast Fourier Transform, Journal of Systems Architecture, Volume 56, Issue 12, December 2010.
3. Zhiqian Dai, Yong Guan, Ran Guan, Dynamic Adjustment A\* Routing Algorithm, Innovative Computing & Communication, 2010 Intl Conf on and Information Technology & Ocean Engineering, 2010 Asia-Pacific Conf on (CICC-ITOE), 2010.
4. Li Xiaojuan, Guan Yong, Wang Yanli, Wu Minhua, Developing a Platform for Understanding Networking Protocols Based on Packet Analysis, 2010 Second International Workshop on Education Technology and Computer Science (ETCS), 2010.
5. Xumin Liu, Weixiang Xu, Jing Xu, Yong Guan, Study on the Application of Surface Modeling Algorithm, 2010 International Conference on Measuring Technology and Mechatronics Automation (ICMTMA), 2010.
6. Shi Na, Liu Xumin, Guan Yong, Research on k-means Clustering Algorithm: An Improved k-means Clustering Algorithm, 2010 Third International Symposium on Intelligent Information Technology and Security Informatics (IITSI), 2010.
7. Xumin Liu, Xianpeng Yang, Yong Guan, An improved subdivision algorithm based on quadrilateral meshes, 2010 3rd IEEE International Conference on Computer Science and Information Technology (ICCSIT), 2010.
8. Xumin Liu, Jing Xu, Weixiang Xu, Yong Guan, Scattered Points Denoising of TC-Bézier Surface Fitting, Third International Conference on Knowledge Discovery and Data Mining, 2010.
9. Dawei Qian, Xumin Liu, Yong Guan, Research on particle-based simulation for fire, 2010 2nd International Conference on Future Computer and Communication (ICFCC), 2010.
10. Tian Jianlei, Liu Xumin, Guan Yong, Anisotropic Smoothing Algorithm for Triangular Mesh Models, Computer Science-Technology and Applications, 2009. IFCSTA '09.
11. Li Xiaojuan, Guan Yong, Yuan Huimei, Evaluation for Network Loads Using Data Fusion, Information Engineering and Computer Science, 2009.
12. Xiaojuan Li, Yong Guan, Minhua Wu, Web-Based Virtual Laboratory Platform for Computer Network, Computational Intelligence and Software Engineering, 2009.
13. Chunjing Mao, Yong Guan, Jungwirth, D. Research and Design of On-board Dynamic Reconfigurable Router, INC, IMS and IDC, 2009. NCM '09
14. Tian Jianlei, Liu Xumin, Guan Yong, Detection of Crest Lines on Triangular Meshes With Noise, International Conference on Information Engineering and Computer Science, 2009.
15. Zhang Wei-gong, Zhang Yong-xiang, Shang Yuan-yuan, Guan Yong, Qiu Qing-lin, Xin Ming-rui, Research on Precise Synchronization for TMR Fault-Tolerant Embedded Computer, International Conference on Multimedia Information Networking and Security, 2009.
16. Liu Xumin, Guan Yong, Xu Weixiang, Shang Yuanyuan, The Effect of Shape Parameters on Hyperbolic Polynomial Uniform B-Spline Curve Model, International Conference on Information Engineering and Computer Science, 2009.
17. Yong GUAN, Guohui WANG, Jie ZHANG, Shengzhen JIN, Yuanyuan SHANG, Huizhuo NIU, OPTIMIZATION OF REDUNDANT ANALYSIS AND DESIGN FOR SPACEWIRE, International SpaceWire Conference 2010, pp167-172, 2010.
18. Zhiqian Dai, Limin Tao, Liya Liu, Yong Guan, Weigong Zhang, Yuanyuan Shang, ShengZhen Jin, FORMAL VERIFICATION FOR SPACEWIRE LINK INTERFACE USING MODEL CHECKING, International SpaceWire Conference 2010, pp185-192, 2010.
19. Chunjing MAO, Yong GUAN, Zili SHAO, Jie Zhang, Elastic Flow Control and Parallel Switch Design for SpaceWire Router, International SpaceWire Conference 2010, pp259-265, 2010.
20. Liming Li, Liya Liu, Yong Guan, Yan Zhang, Jie Zhang, Limin Tao, A FORMAL METHOD FOR VERIFYING THE IMPLEMENTATION OF SPW DATA-STROBE-ENCODING BY APPLYING THEOREM PROVING, International SpaceWire Conference 2010, pp247-253, 2010.
21. 毛春静, 关永, David Jungwirth, 星载SpaceWire路由器的研究与设计, 《电子与信息学报》(EI检索), 第32卷第8期, pp1904-1909, 2010.
22. Y. Wang, D. Liu, M. Wang, Z. Qin, Z. Shao, and Y. Guan. RNFTL: a reuse-aware NAND flash translation layer for flash memory. In Proc. of the 2010 ACM SIGPLAN/SIGBED Conference on Languages, Compilers and Tools for Embedded Systems (LCTES' 10), pages 163-172, April 2010.

## 五、获奖情况

科研方面:

- 2010年获得北京市科学技术三等奖
- 2010年入选新世纪百千万人才工程
- 2010年北京市自然科学基金优秀项目负责人
- 2009年入选北京市拔尖创新人才计划
- 2008年入选北京市学术创新团队
- 2008年获得北京市科学技术二等奖

教学方面:

- 2010年获得北京市教学名师奖
- 2009年入选“首都教育先锋”先进个人
- 2009年获批国家级教学团队, 2009年获批北京市教学团队
- 2008年《电路分析》课程入选国家级精品课程
- 2008年被评为首都师范大学优秀教师

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