信息学部
浙江大学

Annual Report 2012
FACULTY OF INFORMATION TECHNOLOGY
ZHEJIANG UNIVERSITY

浙江大学信息学部
FACULTY OF INFORMATION TECHNOLOGY
ZHEJIANG UNIVERSITY

FIT

浙江大学
信息学部
Faculty of Information Technology
Zhejiang University

Annual
Report 2012

年报

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Information Technology
Zhejiang University

学部概况
INTRODUCTION TO FIT

信息学部涵盖了光电信息工程学系、信息与电子工程学系、控制科学与工程学系、计算机科学与技术学院、软件学院、生物医学工程与仪器科学学院。学部共有9个一级学科，其中光学工程、控制理论与工程、生物医学工程为国家重点学科，另有计算机应用和通信与信息系统两个二级学科为国家重点学科；拥有3个国家重点实验室，1个国家专业实验室，3个国家工程研究中心，共有20个研究所，主要开展信息领域科学和工程技术问题的创新研究。

Faculty of Information Technology (FIT) of Zhejiang University(ZJU) comprises of three departments and three colleges, namely Department of Optical Engineering, Department of Information Science and Electronic Engineering, Department of Control Science and Engineering, College of Computer Science and Technology, College of Biomedical Engineering & Instrument Science and College of Software Technology. Currently, FIT has 9 primary disciplines, in which there are 3 national key disciplines, Optical Engineering, Control Science and Technology, and Biomedical Engineering. Besides, 2 secondary disciplines, Computer Application Technology, Communication and Information System, are also national key disciplines. Under its administration, there are 3 State Key Laboratories, 1 National-specialized Laboratory, 2 National Engineering Research Centers, 20 research institutes, to devote in the research of science issues and innovation of technical problem in the area of information technology.

学部主任：刘 旭
Dean：Liu Xu

学部副主任：桑 冈
Vice-Dean：Rong Gang

学部副主任：鲍虎军
Vice-Dean：Bao Hujun

AnnualReport 2012

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Faculty of Information Technology
Zhejiang University

学部机构
ORGANIZATION

学术委员会

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委 员：何赛灵　童利民　刘 承　严晓浪　李尔平
　　　　张仲非　张宏建　荣 冈　庄越挺　陈 纯
　　　　孙守迁　吴朝晖　周 昆　段会龙　陈耀武

Academic Committee

Director: Sun Youxian　**Vice- Director:** Liu Xu
Committee members:

He Sailing	Tong Limin	Liu Cheng
Yan Xiaolang	Li Erping	Zhang Zhongfei
Zhang Hongjian	Rong Gang	Zhang Yueting
Chen Chun	Sun Shouqian	Wu Zhaohui
Zhou Kun	Duan Huilong	Chen Yaowu

学位委员会

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委 员：白 剑　仇 旻　徐 文　杨建义　张光新
　　　　宁钢民　何钦铭　陈 刚　何湘宁　许正平
　　　　鲍世宁

Degrees Committee

Director: Bao Hujun　**Vice- Director:** Du Yiping
Committee members:

Bai Jian	Qiu Min	Xu Wen
Yang Jianyi	Zhang Guangxin	Ning Gangmin
He Qinming	Chen Gang	He Xiangning
Xu Zhengping	Bao Shining	

人力资源委员会

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　　　　张朝阳　孙优贤　张宏建　苏宏业　庄越挺
　　　　陈 纯　鲍虎军　吴朝晖　陈耀武

Human Resources Committee

Director: Liu Xu　**Vice- Director:** Duan Huilong
Committee members:

Liu Cheng	Tong Limin	Liu Xiangdong
Yan Xiaolang	Zhang Xianmin	Zhang Chaoyang
Sun Youxian	Zhang Hongjian	Su Hongye
Zhuang Yueting	Chen Chun	Bao Hujun
Wu Zhaohui	Chen Yaowu	

教学委员会

主 任：荣 冈　副主任：陈 越
委 员：王晓萍　张光新　何钦铭　黄 海　杨冬晓
　　　　于慧敏

Education Committee

Director: Rong Gang　**Vice- Director:** Chen Yue
Committee members:

Wang Xiaoping	Zhang Guangxin	He Qinming
Huang Hai	Yang Dongxiao	Yu Huimin

信息学部
Faculty of Information Technology

- 光电信息工程学系
  Dept. of Optical Engineering
- 信息与电子工程学系
  Dept. of Control Science & Engineering
- 控制科学与工程学系
  Dept. of Information Science & Electronic Engineering
- 计算机科学与技术学院
  College of Biomedical Engineering & Instrument Science
- 生物医学工程与仪器科学学院
  College of Computer Science and Technology
- 软件学院
  College of Software Technology

师资队伍
TALENT TEAM

教职员工665人，其中正高157人，副高280人。有中国工程院院士3人，

教育部长江特聘教授7人，
浙江省特级专家5人，浙江省千人计划教授7人，973首席科学家4人，973青年科学家1人，国家自然科学基金杰出青年获得者11人，优秀青年基金获得者2人。国家自然科学基金创新群体2个，教育部创新团队2个。
2012年新增

973首席科学家1人，973青年科学家1人，优秀青年基金获得者2人，中组部青年拔尖人才支持计划5人，教育部新世纪优秀人才3人，宝钢优秀教师奖1人，浙江省首届"高校优秀教师"1人。

FIT has about 665 faculty members, including 157 full professors, 280 associate professors. There are 3 members of the Chinese Academy of Engineering, 7 Special-term professors specially engaged in the National Cheung Kong Scholar Program, 5 Senior Experts of Zhejiang Province, 7 Zhejiang Provincial Program of High-Level Overseas Talents, 4 Chief Scientists of National "973" Program, 1 Young Scientist of National "973" Program, 11 National Distinguished Youth Science Foundation Fellows, 2 National Excellence Youth Science Foundation Fellows. 2 Innovative Research Groups of NSFC and 2 Innovative Research Teams of Ministry of Education have been constructed.
In 2012, 1 professor was appointed Chief Scientist of National "973" Program and 1 professor was appointed Young scientist of National "973" Program. 2 professors obtained China National Funds for Excellence Young Scientists, 3 faculty members were engaged in the training plan for MOE New Century Talents and 5 faculty members were engaged in the National Support Plan for Youth Topnotch Talents. 1 professors was bestowed the Bao Gang Outstanding Teacher Prize and 1 professor won the honors as Zhejiang Province Excellent Teacher in College.

教学科研队伍职称结构
Professional Structure

- 9.7%
- 41.5%
- 48.7%

- 教授 Prof.
- 副教授 Associate Prof.
- 讲师 Lecture
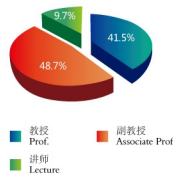
2012年新增
(Awarded in 2012)

专家 教授

金建铭
Jin Jianming

郑光廷
Zheng Guangting

专家教授

青年专家

李一恒
El Hang Lee

973首席科学家
Chief Scientist of National "973" Program

吴朝晖
Wu Zhaohui

优秀青年基金获得者
National Excellence Youth Science Foundation Fellows

陈积明
Chen Jiming

陈　剑
Chen Jian

973青年科学家
Young Scientist of National "973" Program

蔡　登
Cai Deng

蔡　登
Cai Deng

教育部新世纪优秀人才
MOE New Century Excellent Scholar Training Program Fellows

陈红胜
Chen Hongsheng

赵春晖
Zhao Chunhui

尹建伟
Yin Jianwei

中组部青年拔尖人才支持计划
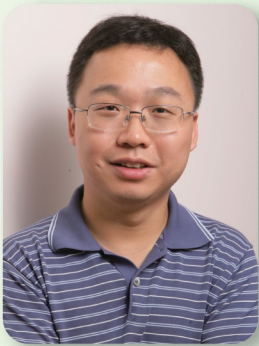National Support Plan for Youth Topnotch Talents

陈红胜
Chen Hongsheng

陈积明
Chen Jiming

何晓飞
He Xiaofei

李春光
Li Chunguang

周　昆
Zhou Kun

宝钢优秀教师
Bao Gang Outstanding Teacher

浙江省首届 "高校优秀教师"
Zhejiang Province Excellent
Teacher in College

浙江省 专家 教授

副教授
Associate Professors

杨冬晓
Yang Dongxiao

王晓萍
Wang Xiaoping

李铁强
Li Tieqiang

金 浩
Jin Hao

钟财军
Zhong Caijun

林时胜
Lin Shisheng

教授
Professors

高士明
Gao Shiming

宋春跃
Song Chunyue

熊 蓉
Xiong Rong
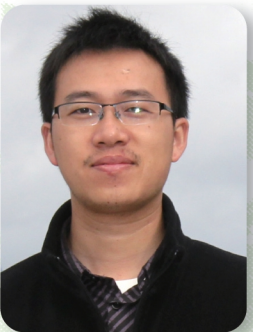
葛志强
Ge Zhiqiang

程 鹏
Cheng Peng

蔡 登
Cai Deng

陈华钧
Chen Huajun

唐 敏
Tang Min
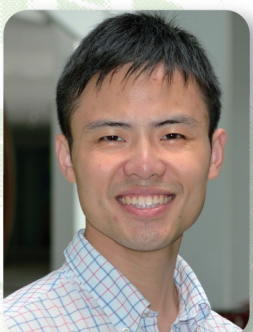
董 玮
Dong Wei

王 灿
Wang Can

侯启明
Hou Qiming

副教授
Associate Professors

郑音飞
Zheng Yinfei

邵 健
Shao Jian

蒋 凯
Jiang Kai
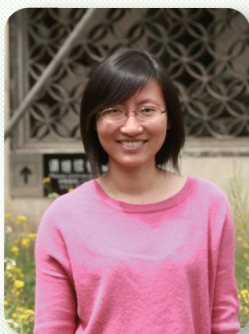
刘海凤
Liu Haifeng

引进教师
New Teachers

刘 东	郭 欣	林时胜	赵航芳	周春琳 程 鹏 陈 剑 董 玮 汤斯亮
张 寅	陶煜波	黄海燕	吴鸿智	陈 星 陈 松 孙莲莉 许迎科 张明晖
Liu Dong	Guo Xin	Lin Shisheng	Zhao Hangfang	Zhou Chunlin
Cheng Peng	Chen Jian	Dong Wei	Tang Siliang	Zhang Yin
Tao Yubo	Huang Haiyan	Wu Hongzhi	Chen Xing	Chen Song
Sun Lianli	Xu Yingke	Zhang Mingwei		

科学研究
SCIENTIFIC RESEARCH

2012年到校科研经费逾4.9亿元，纵向经费占76%以上，其中国家自然科学基金获资助80项，合计经费6218万元，经费比2011年增长了37%。在研千万级项目13项，新增973项目2个，自然基金委重大、重点、国际合作项目共3项。据不完全统计，2012年SCI收录论文507篇，其中影响因子5.0以上的论文有11篇；获国家授权发明专利435项；获国家科技进步奖二等奖1项，省部级科学技术一等奖2项、二等奖2项。

The total research funding of FIT in 2012 reached over 490 million RMB, about 76% of which from the state government. FIT got 80 projects from NSFC with 62.18 million RMB in total. About 507 published papers are indexed by SCI together with 435 patents of invention registered. FIT got 1 Second Award for National Sci & Tech Progress, and 2 First Awards for Provincial Sci & Tech Progress. It has 13 Grant National Projects in progress, with over ten million RMB each, 2 national "973" programs and 3 key projects of NSFC in 2012.

国家研究基地
National Research Bases

国家研究基地
National Research Bases

国家重点（专业）实验室
State Key（Specialized）Labs

国家工程（技术）中心
National Engineering Reasearch Centers

计算机辅助设计与图形学
State Key Laboratory of CAD&CG

现代光学仪器国家重点实验室
State Key Laboratory of Modern Optical Instrumentation

工业控制技术国家重点实验室
State Key Laboratory of Industrial Control Technology

生物传感器国家专业实验室
Biosensor National Special Laboratory

国家光学仪器工程技术研究中心
National Engineering and Technology Research Center for Optical Instrumentation

工业自动化国家工程研究中心
National Engineering Research Center for Industrial Automation

国家列车智能化工程技术研究中心
National Engineering Research Center for Train Intelligent

研究所
Institutes

院系 Department/College	研究所名称 Institute	所长 Director
光电信息工程学系 Dept. of Optical Engineering	光学工程研究所 Inst. of Optical Engineering	冯华君 Prof. Feng Huajun
	光电信息及检测技术研究所 Inst. of Optoelectronic Information Detection Technology	章海军 Prof. Zhang Haijun
	光电子技术研究所 Inst. of Optoelectronic Technology	沈永行 Prof. Shen Yonghang
	光电显示技术研究所 Inst. of Optoelectronic Display	刘 旭 Prof. Liu Xu
	光及电磁波研究中心 Center for Optical & Electromagnetic Research	何赛灵 Prof. He Sailing
	先进纳米光子学研究所 Inst. of Advanced Nanophotonics	仇 旻 Prof. Qiu Min
	光学惯性技术工程中心 Center for Optical Inertial Technology	刘 承 Prof. Liu Cheng
信息与电子工程学系 Dept. of Information Science and Electronic Engineering	信息与通信工程研究所 Inst. of Information & Communication Engineering	黄爱苹 Prof. Huang Aiping
	电子电路与信息系统研究所 Inst. of Electronic Circuit & Information System	沈继忠 Prof. Shen Jizhong
	电子信息技术与系统研究所 Inst. of Electronic Information Technology &System	李尔平 Prof. Li Erping
	微电子与光电子研究所 Inst. of Microelectronics and Optoelectronics	骆季奎 Prof. Luo Jikui
控制科学与工程学系 Dept. of Control Science and Engineering	工业控制研究所 Inst. of Industrial Process Control	孙优贤 Prof. Sun Youxian
	自动化仪表研究所 Inst. of Automation Instrumentation	张宏建 Prof. Zhang Hongjian
	智能系统与控制研究所 Inst. of Cyber-Systems and Control	褚 健 Prof. Chu Jian
计算机科学与技术学院 College of Computer Science and Technology	人工智能研究所 Inst. of Artificial Intelligence	庄越挺 Prof. Zhuang Yueting
	计算机软件研究所 Inst. of Computer Software	陈 纯 Prof. Chen Chun
	计算机系统结构与网络安全研究所 Inst. of Computer System and Security	吴朝晖 Prof. Wu Zhaohui
	工业设计研究所 Inst. of Modern Industrial Design	孙守迁 Prof. Sun Shouqian
生物医学工程与仪器科学学院 College of Biomedical Engineering & Instrument	生物医学工程研究所 Inst. of Biomedical Engineering	段会龙 Prof. Duan Huilong
	数字技术及仪器研究所 Inst. of Digital Technology & Instrument	陈耀武 Prof. ChenYaowu

科研亮点
Research Highlights

1. 新增国家重大科研项目
New National Important Projects

① 脑机融合感知和认知的计算理论与方法

　　该973项目以计算机学院吴朝晖教授为首席科学家，2012年获批立项。脑机一体化为生物智能与人工智能的多层次融合提供了技术手段和应用方向。项目由浙江大学承担，清华、中科院计算所、华东师范、深先院等7家单位参与，拟围绕脑机融合的编解码与信息表达、脑机协同感知与认知模型、脑机适应及机能智能增进等关键科学问题，建立脑机融合的感知和认知计算的基本框架与技术体系，并实现典型示范应用系统。
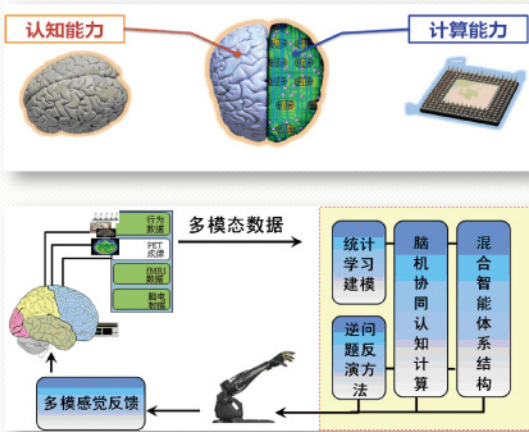
Brain–computer–integrated Cognitive Computing: Theory and Methods

The project directed by Prof. Wu Zhaohui from CS College was successfully granted by National "973" Program in 2012.Brain-machine interface is promoting convergence of biological intelligence and machine intelligence. Participants of this project include ZJU, Tsinghua University, Institute of Computing Technology at CAS, East China Normal University, etc. It will focus on neural signal encoding and decoding, brain-computer-integrated cognitive computing models and methods, brain-computer adaption mechanisms, enhancement of function and intelligence. Its goal is to build a framework for brain-computer-integrated cognitive computing, and to implement several prototypes.

② 社交网络信息传播分析与挖掘

　　社交网络的飞速发展，尤其是博客、在线社区、微博的诞生和普及，使面向社交网络信息传播的研究成为国际学术界关注的热点问题。社交网络信息传播的检测与监控成为国家公共安全的重大需求。计算机学院蔡登教授领导的团队致力于研究不同社交网络的结构和信息传播模型。获得科技部2012年青年973项目资助，是信息领域全国获得资助的4个项目之一。

Analysis and Mining of Information Propagation on Social Networks

In recent years, online social networks have undergone a rapid development, especially the birth and spread of blogs, forums and the Twitter. This makes information propagation in social networks become a hot research area. Prof. Cai Deng from CS College is leading a group devoting to this area. Their research is focused on the structure of different social networks and how the information propagating on these networks. The project is supported by the National Youth"973" Program in 2012.

❸ 大型高炉高性能运行控制的基础理论与关键技术研究

大型高炉是我国钢铁行业高耗能高排放的主要源头，面临着"运行信息测量难"、"行为特征建模难"和"运行控制实现难"等问题。控制系孙优贤院士领衔的基金委重大项目，主要研究大型高炉高性能运行控制的基础理论与关键技术，具体包括：恶劣环境条件下运行信息获取、系统建模、运行控制及工况诊断方法及实现技术。项目研究具有深远的科学意义和广阔的应用前景。

Research on Fundamental Theory and Key Technology of High Performance Operational Control for Large Scale Blast Furnace Systems

As the major project of NSFC, this project is directed by Academician Sun Youxian from Dept.of Control Science and Engineering. Large blast furnaces are the main course of significant energy consumption and high carbon emission of the Chinese iron and steel industry. It faces a number of issues in terms of difficulties in measuring relevant operational information, behavior modeling together with the fact that operation control is hard to be implemented. In this project the fundamental theory and key technologies of high performance operational control of large blast furnace will be studied, namely the development of real time acquisition, system modeling, operational control and working condition diagnosis method of the large blast furnace. The research will have profound scientific significance with wide range of applications.
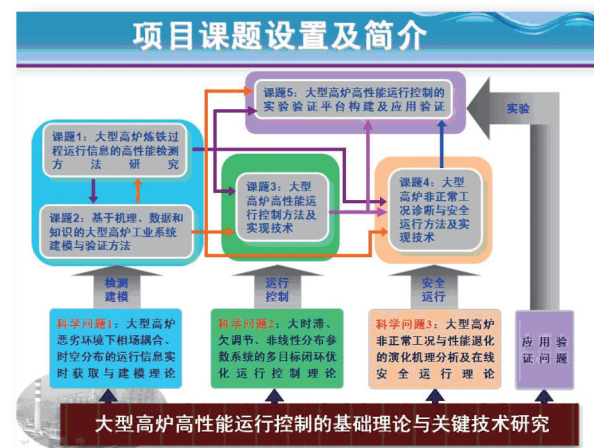

❹ 复杂物理对象的几何优化与过程模拟

计算机学院鲍虎军教授领衔的基金委重大国际合作项目，致力于研究复杂对象的几何优化表示和物理过程的高效可控模拟问题，通过二者的有机关联耦合，突破几何形状的高质量离散优化、多物理场的高效计算模拟和物理场数据的可视化分析等关键技术，实现复杂物理现象的高效准确模拟和再现，在物理模拟、虚拟现实和图形学等领域得到应用验证。

Geometric Model Reduction and Dynamic Simulation of Complex Physical Systems

As the major international cooperation project of NSFC, this project directed by Prof. Bao Hujun from CS College focus on optimizing the representation of the physical object for efficient and controllable simulation. By analyzing the relationship between the geometrical representation and physical governing equation, we try to bring forward a set of key techniques for better quality of domain discretization, performance of multi-phase simulation, and visualization of the complex physical data fields. The techniques will lead to accurate, efficient, and robust simulation of complex physical phenomena, and be validated in applications of physically-based simulation, virtual reality and computer graphics.
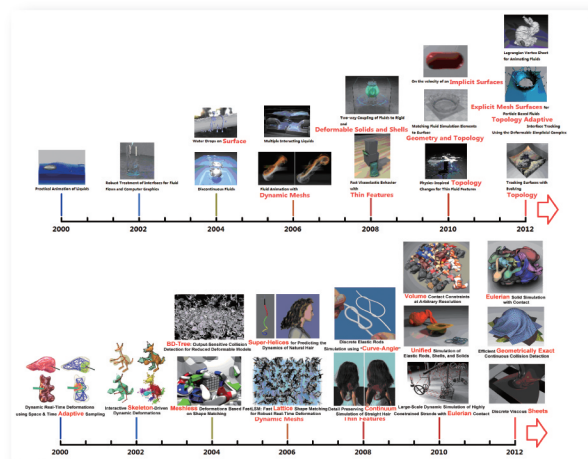
❺ 探索式可视分析的基础理论与方法

计算机学院陈为教授领衔的国家自然科学基金委重点项目，将以实际应用为例，研发和验证探索式可视分析的新方法。项目将重点探索：①如何针对应用目标，定义和构建易于可视化、挖掘和交互的模型；②如何高效地实现分析驱动的可视化；③如何在集成的可视分析环境中，实现用户与机器智能的交互与融合。

Study on The Fundamental Theory and Methods of Exploratory Visual Analysis

As the key project of NSFC, this project directed by Prof. Chen Wei from CS College will take practical applications as examples to study and evaluate new schemes of exploratory visual analysis. The project will emphasize on three aspects: 1) how to define and construct easy-to-visualize, mining and interaction model for specific application goals; 2) how to efficiently accomplish analysis-driven visualization; and 3) how to fulfill the interaction and fusion of human users and machine intelligence in an integrated visual analysis environment.

❻ 数字化医疗工程技术开发

由生仪学院段会龙教授负责的"数字化医疗工程技术开发"项目是国家"十二五"生物和医药技术领域的863计划重大项目。本项目针对数字化医疗所呈现的网络化、协同化、集成化、智能化、个性化的前沿趋势，重点突破信息集成与融合、个人健康信息获取与分析、医学知识获取与知识库构建、医疗决策支持模型、区域医疗信息共享等一批关键技术，建立自主创新的数字化医疗信息标准体系与框架，形成医疗信息集成引擎与高端电子病历系统等重大产品。

Technology Development of Digital Medical Treatment

This project is directed by Prof. Duan Huilong from College of Biomedical Engineering and Instrument Science."Technology Development of Digital Medical Treatment" is one of the major scientific projects in the biomedical field of National "863" Program. This project aims at making the breakthroughs in the key technologies of medical information integration, personal health information acquisition and analysis, medical knowledgebase construction, medical decision support modeling, and regional medical information sharing.

7 面向光信息传输和交换的高速光互联核心器件及集成芯片技术研究

高性能计算机和高性能CPU技术是计算机技术乃至整个信息技术发展的制高点。光电系何赛灵教授领衔的该863主题重大项目主要研究高带宽、超小型光电子器件技术和集成技术，以片内光互连代替片内电互连，满足未来高性能计算机和高性能CPU对高带宽、低延迟数据传输交换的需求，以便为我国国民经济的发展提供所需要的超级计算机系统。

Development of Integrated Photonic Devices for Inter-chip Optical Interconnects

This project supported by National Key "863" Program is directed by Prof.He Sailing from Dept. of Optical Engineering. As the performance of microprocessors continues to improve, the data flow transmits between the processors becomes an increasingly predominant bottleneck for the overall system performance. Optical interconnects have been proposed as an alternative to copper-based interconnects for both on-chip and off-chip applications. Optical interconnects has successfully replaced electronic data transmission in most link classes exceeding 10 meters, profiting from a 100,000 times higher carrier frequency, thus avoiding many of the limitations of electrical interconnects. The emerging area of optical data transmission provides broader development opportunities and application stages to the development of integrated photonic devices. At the same time it also brings up special requirements towards photonic devices. Therefore, to develop devices meeting the corresponding requirements is very urgent. There is a wide range of research investigating different material systems and architectures for optical interconnects.
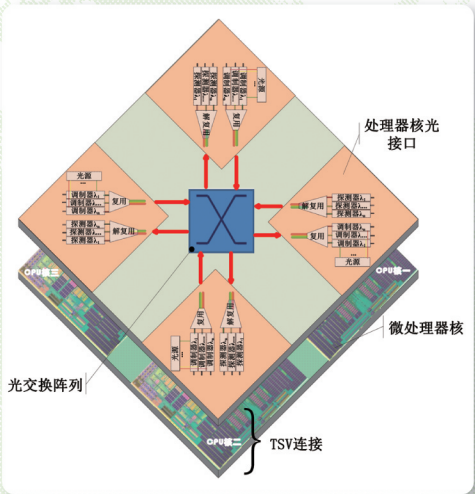
8 海洋环境多源数据同步观测系统集成与示范

由信电系李建龙副教授负责的该863计划项目，以多源数据同化与模式预报为指导，采用移动多源数据观测节点与锚系多源数据观测阵列组网，将大范围、低分辨水文参数估计和小范围、高分辨自适应水文采样相结合，实现区域多源数据同步、机动、智能监测，形成内波、锋面等快变动力环境的观测能力。
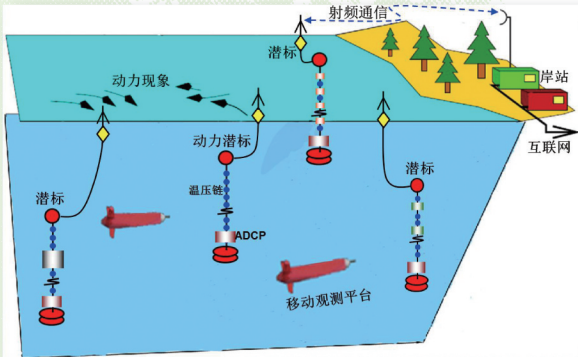
Integration and Demonstration of The Multi-sensor Data Synchronal Observing System in Ocean Environment

The project supported by National "863" Program is directed by Assoc. Prof. Li Jianlong from Dept. of Information Science and Electronic Engineering ,Under the guidance of multi-sensor data assimilation and model predictions, the project employs moving platforms and anchor arrays with multi-sensor data to form an observation network, and combines the large area, low resolution hydrological parameter estimation with the local area, high resolution adaptive hydrological sampling. The aim of the project is to realize regional multi-sensor data synchronal, moving, and intelligent monitoring and provide the observing capability for fast dynamic environments, such as internal waves and fronts.

9 新型金属基超材料的结构实现与器件应用

由光电系马云贵研究员负责的该863计划项目，旨在进行超材料相关的结构实现和器件研发工作，重点研究超材料的结构设计、制备（尤其是在太赫兹、可见及红外光波段的制备技术）以及精确测试方法，获得超材料在天线小型化、高定向性辐射天线以及高性能电磁吸收等领域内的关键应用技术，建设先进的超材料制备和测试平台。
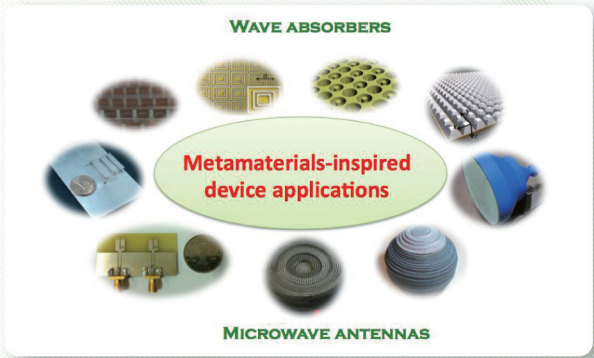
Implementation and Device Application of Metal-based New Type Metamaterialst

This project supported by National "863" Program is directed by Researcher Ma Yungui from Dept. of Optical Engineering. It is aimed to explore high efficient fabrication technologies for metal-based metamaterials and pursuit their key device applications in the fields of electromagnetic antenna and energy absorption. High performance metamaterial-inspired small antennas and compact MIMO antennas will be developed for the usage of next generation mobile/vehicle terminations. Technologies to achieve high-directivity microwave antennas will be also developed utilizing the unique features of metamaterials. New structures and fabrication techniques will be researched to produce high efficient wave absorbers for wide range applications from microwave to THz and optical frequencies. This project will help to establish an advanced platform for the fabrication and measurement of metamaterial .

2. 重大科研成果及进展
Research Achievements and Significant Progress

1 炼油化工重大工程自动化控制与优化一体化系统关键技术研究

该项目由控制系褚健教授负责，获2012年国家科技进步二等奖。项目解决了大规模联合控制系统整体安全与高可靠性技术、基于性能评估的大闭环控制优化运行技术、大型联合装置控制与优化一体化实现技术三大系统性技术难题。项目成果在中石化等企业70余项重大工程中得到成功应用，节能增效效果显著，彻底打破跨国公司垄断，是国内唯一能够完整提供自动化控制与优化一体化软硬件系统工程解决方案的产业化成果。

Key technology Research on Automatic Control and Optimization Integrated System for Major Oil Refining and Chemical Engineering

The project directed by Prof. Chu Jian from Dept.of Control Science and Engineering was awarded the National 2nd Prize of Sci & Tech Progress in 2012.It addressed three systemic technical problems on the overall safety and high reliability technology for large-scale joint control systems, the closed-loop control and optimization technology based on performance evaluation, and the integration of control and optimization for large-scale joint devices. The results of the project have been successfully applied in more than 70 major projects in the petrochemical enterprises with remarkable energy efficiency effect. The project completely broke the monopoly of transnational corporations. It is the only industry achievement in China able to provide the perfect engineering solutions for control and optimization integrated hardware and software systems.

② 汽车电子嵌入式平台研发及产业化

该项目由计算机学院吴朝晖教授负责，获2012年浙江省科学技术奖一等奖。项目成功研制了自主知识产权的汽车电子嵌入式软件平台，提出了一套面向汽车电控系统的V+开发方法，实现了高效定时的微内核实时操作系统，在"强实时、高效率、高安全"等方面取得了多项创新性成果，授权发明专利20项、软著24项，发表SCI/EI 论文50余篇。成果应用于一汽、长安等企业的关键电控系统。

Research Development and Commercialization of Embedded Software Platform for Automotive Electronics

The project directed by Prof. Wu Zhaohui from CS College, was awarded 1st Prize of Sci. & Tech of Zhejiang Province in 2012. It has developed embedded software platform for automotive electronics with independent intellectual property rights, proposed V+ system development methodology for automotive electronic control systems, and implemented a micro-kernel real-time operating system with high efficiency and timing determinism. This platform has generated multiple innovative achievements on the aspects of "hard real-time, high-efficiency, high-safety". We have been obtained 20 patents, 24 software copyrights, 50+ publications indexed by SCI or EI. The platform has been applied to key electronic control systems in multiple companies, including FAW Group and Changan Automobile.

③ 超高速数码喷印设备关键技术研发及应用

该项目由生仪学院陈耀武教授负责，获2012年浙江省科学技术奖一等奖。在国家"863"和国家科技支撑计划支持下，率先开展超高速数码喷印设备关键技术的攻关，在超大流量数码喷印数据实时并行处理引擎和基于视频的喷印过程实时监测与控制方法共性核心技术上取得突破，研制了具有国际水平的超高速数码喷印设备，已成功应用于150多家国内外印染企业。项目共申请国家发明专利32项，其中授权20项；获软件著作权7项；发表SCI/EI论文33篇。
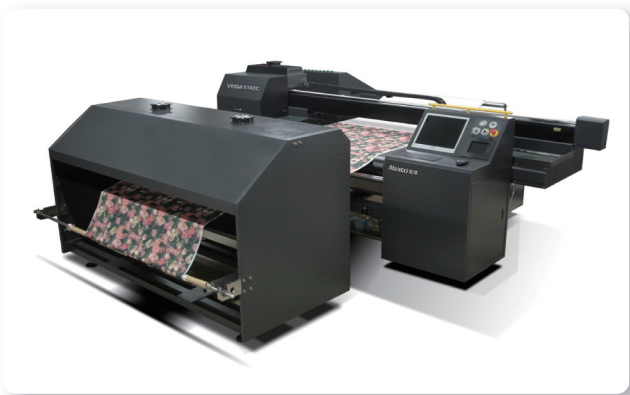
Research and Application of Key Technologies in Ultra-High-Speed Digital Textile Printer

The project directed by Prof. Chen Yaowu from Biomedical Engineering & Instrument Science College was awarded the 1st Prize of Sci. & Tech of Zhejiang Province in 2012. With the support of National High Technology Research and Development Program of China ("863" Program) and National Science and Technology Pillar Program, our project takes the lead in tackling the key technologies for ultra-high-speed digital textile printer, and has made several breakthrough of core techniques including ultra high throughput data processing engine and video based process monitoring and control, and finally the world-leading ultra-high-speed digital textile printer is developed. Up to the present, the printer and been successfully applied to more than 150 enterprises, applied 32 invention patents, 20 of which have been granted, acquired 7 software copyrights and has published 33 papers index by SCI/EI.

④ 中国工程科技知识服务系统

计算机学院潘云鹤院士、庄越挺教授领导的研究团队2012年承担了中国工程科技知识服务系统项目，建设任务主要包括：总体技术架构设计、咨询研究专业知识服务系统，中草药专业知识服务系统、工程科教图书专业知识服务系统、深度搜索技术研究以及门户网站建设。这些建设任务是工程知识中心的重要组成部分，为下阶段建设奠定了扎实的数据、技术基础。

Knowledge Service Systems for Chinese Engineering Science and Technology

Chinese Knowledge Center of Engineering Science and Technology (CKCEST) is a large-scale infrastructure project of Chinese Academy of Engineering. CKCEST will combine and integrate various kinds of data sources, and then establish respective professional knowledge service system (PKSS) for each engineering technology field, which provides comprehensive knowledge services for strategic consulting, professional education and etc. The group lead by Academician Pan Yunhe and Prof. Zhuang Yueting from CS College undertook the following construction tasks in 2012: Design of Overall Architecture, PKSS of Consulting Research, PKSS of Chinese Herbal Medicine, PKSS of Engineering Books, Deep Search technology and Web Portal. Those tasks mentioned have been and will continue to be major components of CKCEST, which laid a solid data and technology foundation for the future development of CKCEST.

⑤ 金纳米棒掺杂纳米光纤—"光子-表面等离激元"新结构

金属纳米颗粒的表面等离激元共振激发一般采用自由光束照射方式，不仅激发效率低，而且难以实现结构微型化。光电系童利民教授团队提出并研制成功有序掺杂金纳米棒的聚合物纳米光纤，首次实现了金纳米棒表面等离激元的导波激发，单个金纳米棒的激发效率高达70%，实现了一维传输光场与局域表面等离激元的完美结合。部分研究结果在"The 2nd International Conference on Frontiers of Plasmonics"国际学术会议上获最佳论文奖。在此基础上，研制成功基于单个金纳米棒掺杂纳米光纤的光学湿度传感器，显示了响应速度快、功耗低、抗光漂白和尺寸小等优点。

Gold-nanorod-doped Polymer Nanofibers-A New 'photonic-plasmonic' Structure
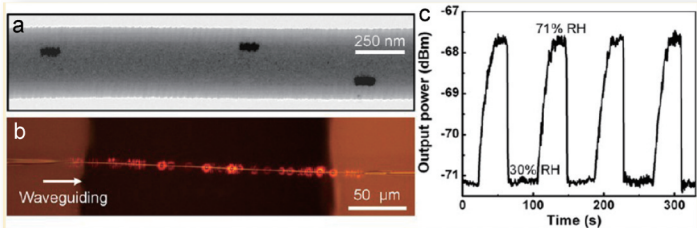
Localized surface plasmon resonance excitation in metal nanoparticles is commonly realized using free-space irradiation, which often needs bulky components to redirect light and provides low photon-to-plasmon-conversion efficiency. Based on polymer nanofibers doped with gold nanorods in uniaxial alignment, Prof. Tong Limin and his members from Dept. of Optical Engineering. demonstrated highly efficient excitation of localized surface plasmon resonance in the doped gold nanorods using a waveguiding approach for the first time, with a photon-to-plasmon-conversion efficiency as high as 70% for a single nanorod at its longitudinal resonance wavelength. Part of the results has been awarded a prize for best poster at the conference "The 2nd International Conference on Frontiers of Plasmonics". On the basis of waveguiding polymer nanofibers doped with gold nanorods, we further demonstrated optical humidity sensors with fast response, low power consumption, high photo-stability and small footprint.

⑥ 电磁波隐身衣实验研究

信电系陈红胜教授负责的团队提出了一种可见光波段多边形隐身衣的设计方法，实验实现了一种可见光频段六边形隐身器件，论文发表在Scientific Reports上，并列入Nature Press Release。此外，基于Mie散射理论，利用各向异性的新型人工电磁材料实现了自由空间中的微波段全向新型圆柱形隐身衣，具有相对较宽的带宽，论文发表在物理学权威期刊Physical Review Letters上。

Experimental Studies on Electromagnetic Invisibility Cloak

Prof. Chen Hongsheng and his group from Dept. of Information Science and Electronic Engineering University experimental demonstrated an isolated polygonal cloak for visible light. The cloak is made of several elements, whose electromagnetic parameters are designed by a linear homogenous transformation method. Using natural anisotropic materials, a simplified hexagonal cloak is fabricated in a broadband visible spectrum. The research results was published in Scientific Reports, and was selected as a Press Release in nature.com. Besides, they also experimentally demonstrated a free space cylindrical invisibility with anisotropic metamaterials over a relatively broad bandwidth based on Mie scattering theory. The work can solve the bottlenecks in each individual method by combining the advantages of previous three main invisibility cloak design methods. The refractive index of the metamaterials adopted in the design is larger than unity, which can avoid superluminal propagation of the wave inside of the cloak. The work was published in Physical Review Letters.
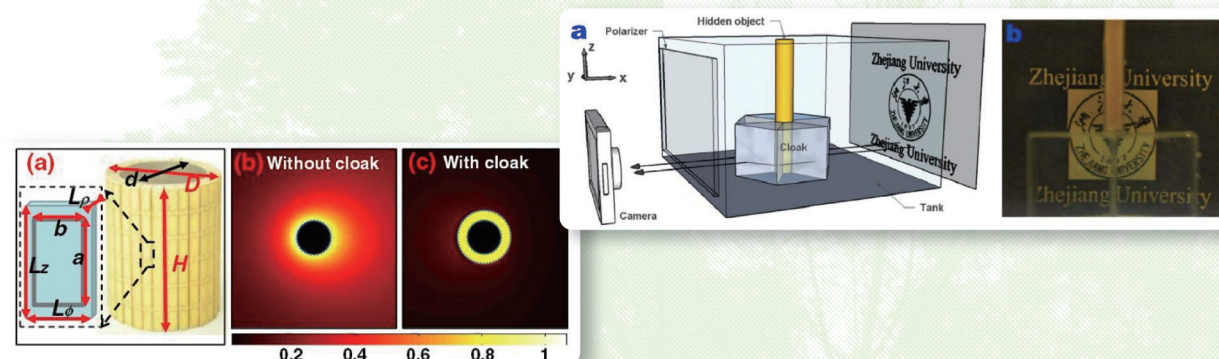

⑦ 智能文档摘要技术研究及应用

大数据时代带来了"信息过载"问题。文档摘要技术可对文档信息进行压缩表示，加速人们对信息的理解。计算机学院陈纯教授团队经过多年研究，突破了传统的文档摘要方法，创新性地提出了一种从数据重构的角度生成摘要的框架，大幅提升了文档摘要质量。研究成果荣获顶级会议AAAI '12最佳论文奖，这是中国大陆学者首次获此奖项。

Information Overloading Has Grown into A Major Challenge in The Big Data Area

Document summarization presents a compressed representation of the texts and effectively accelerates our understanding of the lengthy information. The research group led by Prof. Chun Chen from CS College made a major breakthrough in document summarization by proposing a novel document summarization framework from the perspective of data reconstruction. By selecting summaries that minimize reconstruction error, we can achieve a significant improvement in summarization quality. The above achievement won the AAAI'12 Outstanding Paper Award. This is the first time scholars from mainland China being awarded with this honor.
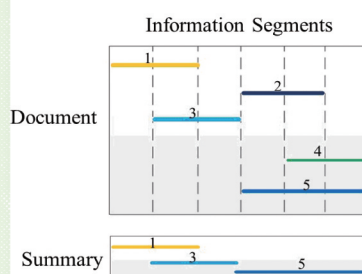

3. 年度TOP论文
Recommended Papers

❶ Polymer Nanofibers Embedded with Aligned Gold Nanorods: A New Platform for Plasmonic Studies and Optical Sensing

作者：Wang, P; Zhang, L; Xia, YN; Tong, LM; Xu, X; Ying, YB
来源：NANO LETTERS 卷: 12 期: 6 页: 3145-3150

该文章报道了掺杂有序排列金纳米棒的聚合物纳米光纤的制备以及它们在光学导波和传感领域的应用。利用纳米光纤导波方式，我们实现了掺杂金纳米棒局域表面等离激元的高效激发，在共振波长处，单个金纳米棒的激发效率高达70%。在此基础上，我们进一步演示了纳米光纤导波激发金纳米棒的光学相对湿度传感，响应时间为110 ms，光功耗低至500 pW。

This paper reports the fabrication and characterization of polymer nanofibers embedded with gold nanorods in uniaxial alignment for applications in optical waveguiding and sensing. Using a waveguiding approach, we demonstrated highly efficient excitation of localized surface plasmon resonance in the embedded gold nanorods with a photon-to-plasmon-conversion efficiency as high as 70% for a single nanorod at its longitudinal resonance wavelength. On the basis of waveguiding polymer nanofibers embedded with gold nanorods, we further demonstrated compact optical humidity sensors with a response time of 110 ms and an operation optical power as low as 500 pW.
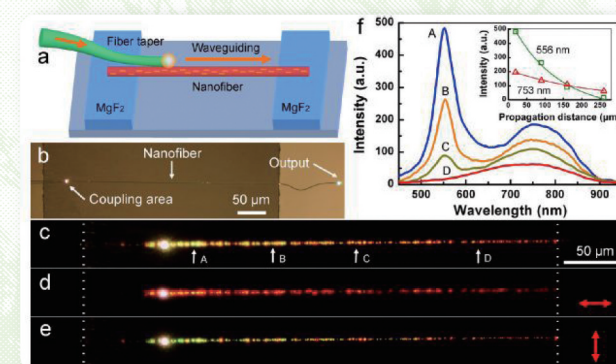
❷ Observation of Multiphoton-Induced Fluorescence from Graphene Oxide Nanoparticles and Applications in In Vivo Functional Bioimaging

作者：Qian, J; Wang, D; Cai, FH; Xi, W; Peng, L; Zhu, ZF; He, H; Hu, ML; He, SL
来源：ANGEWANDTE CHEMIE-INTERNATIONAL EDITION 卷: 51 期: 42 页: 10570-10575
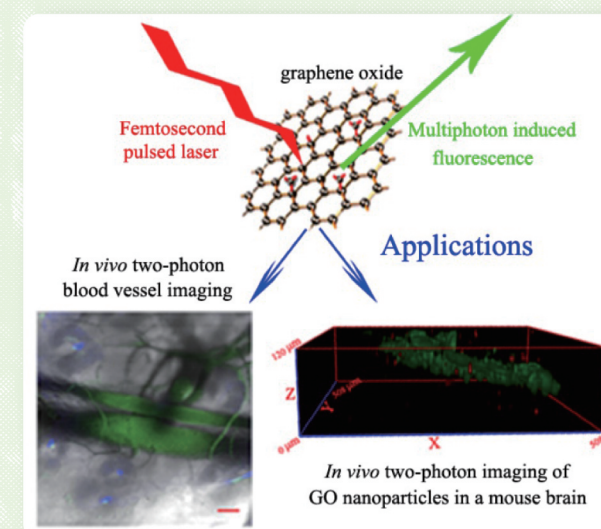
我们对纳米氧化石墨烯（GO）材料在飞秒激光激发下的双光子／三光子荧光效应进行了系统研究，利用双光子荧光显微术研究了尾静脉注射的GO在活鼠耳部血管内的分布、代谢，重构了微注射到小鼠脑部的GO的三维分布。

Femtosecond laser can excite multiphoton induced luminescence of Nano-Graphene Oxide. The flow, distributions and clearance of intravenously injected GO-PEG nanoparticles in the blood vessel of mice could be observed clearly by two-photon imaging. The 3D distribution of micro-injected GO-PEG nanoparticles in mice brain could also be reconstructed with two-photon microscopy. "Nano GO-Ultrafast Laser" platform will attract huge research attentions in bio-applications.

❸ A Multimedia Retrieval Framework Based on Semi-Supervised Ranking and Relevance Feedback
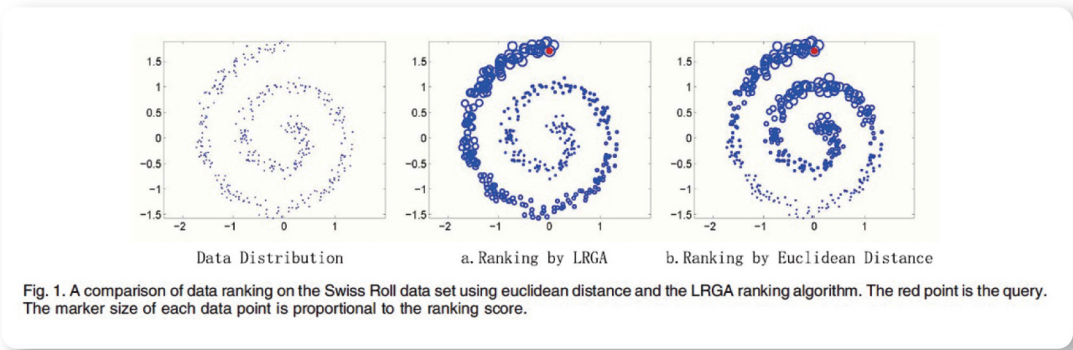
作者：Yang, Y; Nie, FP; Xu, D; Luo, JB; Zhuang, YT; Pan, YH
来源：IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE 卷: 34
期: 4 页: 723-742

相关反馈技术是信息检索中常用而有效的提高检索性能的手段。论文提出了基于历史相关反馈的多媒体表达精化算法，这一方法将相关反馈信息和多媒体数据拓扑结构统一考虑，以便准确地挖掘相关反馈信息和数据拓扑结构，从而提高多媒体搜索性能。

This paper presents a new framework for multimedia content analysis and retrieval which consists of two independent algorithms. First, we propose a new semi-supervised algorithm called ranking with Local Regression and Global Alignment (LRGA) to learn a robust Laplacian matrix for data ranking. In LRGA, for each data point, a local linear regression model is used to predict the ranking scores of its neighboring points. A unified objective function is then proposed to globally align the local models from all the data points so that an optimal ranking score can be assigned to each data point. Second, we propose a semi-supervised long-term Relevance Feedback (RF) algorithm to refine the multimedia data representation. The proposed long-term RF algorithm utilizes both the multimedia data distribution in multimedia feature space and the history RF information provided by users. A trace ratio optimization problem is then formulated and solved by an efficient algorithm.

Fig. 1. A comparison of data ranking on the Swiss Roll data set using euclidean distance and the LRGA ranking algorithm. The red point is the query. The marker size of each data point is proportional to the ranking score.

### ❹ Constrained Nonnegative Matrix Factorization for Image Representation

作者：Liu, HF; Wu, ZH; Li, XL; Cai, D; Huang, TS
来源：IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE 卷: 34
期: 7 页: 1299-1311

非负矩阵分解(NMF)是线性表示非负数据非常有效的一种分解方法。但NMF是非监督算法，不能有效地利用数据标注信息。为此，本篇论文提出了一个将标注信息作为限制条件的新的半监督矩阵分解算法，称作带限制的非负矩阵分解。我们通过在实际应用中与其他方法的一系列对比实验验证了算法的有效性。

Non-negative matrix factorization (NMF) is a popular technique for finding parts-based, linear representations of nonnegative data. However, NMF is essentially an unsupervised method and can not make use of label information. In this paper, we propose a novel semi-supervised matrix decomposition method, called Constrained Non-negative Matrix Factorization (CNMF), which incorporates the label information as additional constraints. Empirical experiments demonstrate the effectiveness of our novel algorithm in comparison to the state-of-the-art approaches through a set of evaluations based on real world applications.
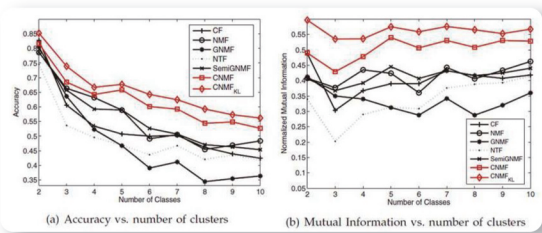
❺ Self-priming Compartmentalization Digital LAMP for Point-of-care

作者：Zhu, QY; Gao, YB; Yu, BW; Ren, H; Qiu, L; Han, SH; Jin, W; Jin, QH; Mu, Y
来源：LAB ON A CHIP 卷: 12 期: 22 页: 4755-4763

数字PCR技术因其能进行单分子扩增，被称为第三代PCR技术。本文研制了一种新式自吸分液式数字核酸等温扩增芯片，该装置依靠PDMS自身的容气性质储存负压，通过油相封隔的方法自动实现样品在微室中的分配，在国际上首次实现了数字PCR进样和隔离的自动化。该芯片具有自动化、便携性、操作简单、敏感度高、准确性好、节约试剂等特点。

Digital nucleic acid amplification provides unprecedented opportunities for absolute nucleic acid quantification by counting of single molecules which is useful for molecular genetic analysis. This paper describes a self-priming compartmentalization (SPC) microfluidic chip platform for performing digital loop-mediated amplification (LAMP). The sample and oil are sequentially sucked into the channels by the energy pre-stored in the degassed bulk PDMS, and the pressure difference allows sample self-compartmentalization without the need for further chip manipulation such as with pneumatic microvalves and control systems, and so on. The microfluidic chip contains 4 separate panels, each panel contains 1200 independent 6 nL chambers and can be used to detect 4 samples simultaneously. The disposable device with appropriate air-tight packaging has these advantages: power-free, valve-free, operating at isothermal temperature, inexpensive, sensitive, economizing labour time and reagents, and point-of-care testing.
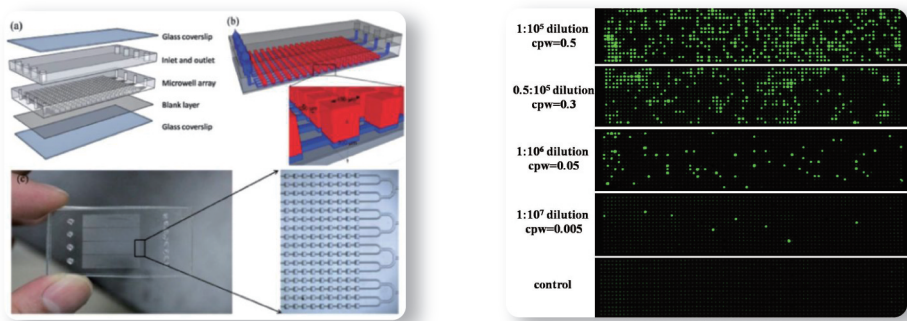
❻ Experimental Demonstration of A Free-Space Cylindrical Cloak Without Superluminal Propagation

作者：Xu, S; Cheng, XX; Xi, S; Zhang, RR; Moser, HO; Shen, Z; Xu, Y; Huang, ZL; Zhang, XM; Yu, FX; Zhang, BL; Chen, HS
来源：PHYSICAL REVIEW LETTERS 卷: 109 期: 22

我们用实验证明了一种新颖的电磁波隐身衣设计思路，将目前三种主要的电磁波隐身方法的优点糅合在一起，从而解决单一方法中的设计瓶颈。基于Mie散射理论，利用各向异性的新型人工电磁材料实现了能在自由空间工作的圆柱隐身衣。

We experimentally demonstrated an alternative approach of invisibility cloaking that can combine technical advantages of all current major cloaking strategies in a unified manner and thus can solve bottlenecks of individual strategies. A broadband cylindrical invisibility cloak in free space is designed based on scattering cancellation, and implemented with anisotropic metamaterials.
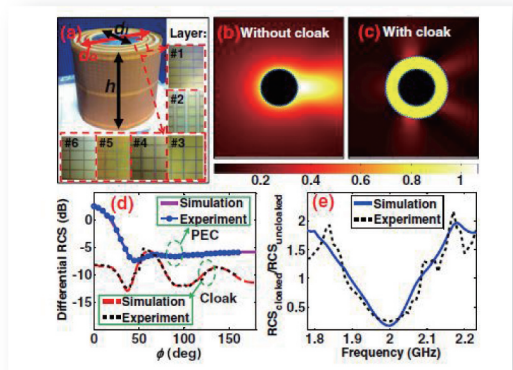
⑦ Data-Based Linear Gaussian State-Space Model for Dynamic Process Monitoring

作者：Qiaojun Wen, Zhiqiang Ge and Zhihuan Song
来源：AICHE JOURNAL 卷：58 期：12 页：3763-3776

针对噪声环境下的动态过程监测，提出了一种基于贝叶斯统计学习和线性高斯状态空间模型的过程监测方法，采用迭代EM算法学习模型参数、Kalman滤波器估计状态变量，建立了一种基于数据的新型线性高斯状态空间模型，能有效捕捉过程的动态信息噪声特性，提出了一种融合动态数据信息的故障检测与识别新方法，通过理论分析和仿真案例验证了该方法的有效性。

This article develops a data-based linear Gaussian state-space model for monitoring of dynamic processes under noisy environment. The Kalman filter is introduced for construction of the linear Gaussian state-space model, and an iterative expectation-max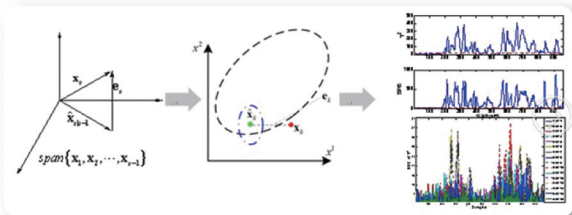imization algorithm is used for model parameters learning. With the incorporation of the dynamic data information, a new fault detection and identification approach is proposed. The feasibility and effectiveness of the two monitoring statistics in the new method are theoretically evaluated and further confirmed through two case studies. Furthermore, detailed fault smearing effect analysis of the proposed method is provided and compared with other identification methods. Based on the simulation results of two case studies, the superiority of the proposed method is explored.

⑧ Nonlinear Wave Modeling and Dynamic Analysis of Internal Thermally Coupled Distillation Columns

作者：Xinggao Liu*, Yexiang Zhou, Lin Cong, Jie Zhang
来源：AIChE Journal 卷：58 期：4 页：1146-1156

精馏操作占工业能耗约15%，节能控制意义很大，其中内部热耦合精馏塔（ITCDIC）是精馏节能控制研究的前沿和热点。论文研究了ITCDIC非线性波动方法，首次发现了该过程独特的波动现象和常规精馏波动模型不适用特性，建立了其有效的非线性波动模型。自从国际AIChE学会精馏主席美国西北大学Mah教授1977年在该领域Top期刊提出该节能技术的雏形以来，该论文是首篇研究报道；8个月后，欧洲过程控制的领军人物德国Aachen大学的Wolfgang Marquardt教授发表了第2篇论文。

Distillation column consumes about 15% total industrial energy, its energy saving control is therefore important, where Internal Thermally Coupled Distillation Column (ITCDIC) is a frontier in the energy saving distillation research. In this article, a physical approach of the ITCDIC process based on nonlinear wave theory is explored, where it is first discovered that ITCDIC process has different wave traveling phenomena and traditional wave theory in conventional distillation columns could not be directly applied in ITCDIC, an effective novel nonlinear wave model of ITCDIC is thereby proposed.
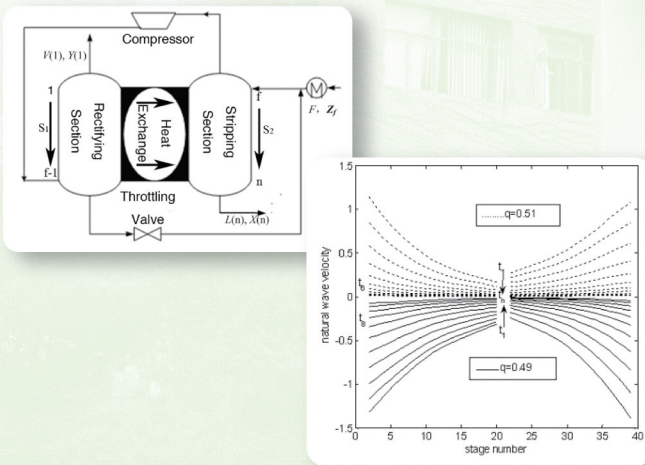
⑨ Single-View Hair Modeling for Portrait Manipulation

作者：Chai, Menglei; Wang, Lvdi; Weng, Yanlin; Yu, Yizhou; Guo, Baining; Zhou, Kun
来源：ACM TRANSACTIONS ON GRAPHICS 卷：31 期：4

论文提出了一个仅需少量用户输入的单视点下的发型建模技术。方法是依靠经验知识来生成可信的高分辨率的基于发丝的三维发型模型。在建模过程中，提出了一个高效的精确二维发丝追踪技术，其在最终过程中显式地考虑不可信性与局部遮挡关系。追踪得到的发丝随后通过优化方法求解其深度值，同时考虑深度、遮挡与正则化约束。该单视点发型建模使得许多挑战性的应用成为可能，包括不同姿态下的发型迁移、在不同视角下的发型重渲染以及图像空间中的发型编辑。
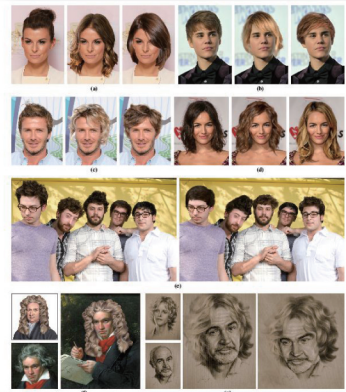
In this paper, we focus on applications related to portrait manipulation and take an application-driven approach to hair modeling. To enable an average user to achieve interesting portrait manipulation results, we develop a single-view hair modeling technique with modest user interaction to meet the unique requirements set by portrait manipulation. Our method relies on heuristics to generate a plausible high-resolution strand-based 3D hair model. This is made possible by an effective high-precision 2D strand tracing algorithm, which explicitly models uncertainty and local layering during tracing. The depth of the traced strands is solved through an optimization, which simultaneously considers depth constraints, layering constraints as well as regularization terms. Our single-view hair modeling enables a number of interesting applications that were previously challenging, including transferring the hairstyle of one subject to another in a potentially different pose, rendering the original portrait in a novel view and image-space hair editing.

⑩ Neurosecretory Cell-based Biosensor: Monitoring Secretion of Adrenal Chromaffin Cells by Local Extracellular Acidification Using Light-addressable Potentiometric Sensor

作者：Liu, QJ; Hu, N; Zhang, FN; Wang, H; Ye, WW; Wang, P
来源：BIOSENSORS & BIOELECTRONICS 卷：35 期：1 页：421-424

在生理过程中，囊泡分泌具有重要作用。本文将嗜铬细胞培养在光寻址电位传感器表面，对细胞的分泌过程进行了无标记记录分析。通过检测细胞在KCl与Ach刺激下的胞外信号，构建了能对神经分泌活动进行监测的传感平台。

Vesicular exocytosis plays an important role in many physiological processes. The chromaffin cells are directly cultured on the light-addressable potentiometric sensor (LAPS) surface. The events of vesicular exocytosis are recorded. Protons stored in the vesicles and co-released with transmitters, induced a brief acidic shifts in the cell-sensor cleft. Under the stimulation of the KCl and acetylcholine (Ach), the signals presented the different amplitude and exocytosis rate, and reflected the specific features of the exocytosis. The result indicates that neurosecretory cell-based biosensor will provide a useful platform for neurosecretion mechanism research by monitoring the exocytotic activities with extracellular acidification sensing.
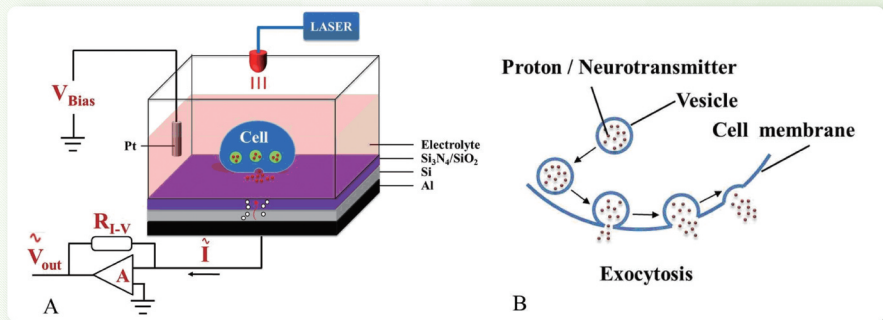
人才培养
EDUCATION

学部共有10个本科专业，8个一级学科博士学位授予点，1个一级学科硕士学位授予点，21个二级学科博士学位授予点，22个二级学科硕士学位授予点。在校生（包括本科生和研究生）6300人，在国内外各类学科竞赛中取得了优异的成绩，本科生深造率达50%以上，2012年获全国优博论文1篇，优博提名论文1篇。

There are 10 undergraduate programs, 8 doctorate programs of primary discipline, 1 master program of primary discipline, 21 both doctorate and master programs of secondary discipline, and another one master program of secondary discipline. About 6300 full-time undergraduate and graduate students enrolled at the the faculty. They have made outstanding achievements in various international or domestic disciplinary competitions. More than 50% undergraduate students can continue their studies at home or aboard. In 2012 , one graduate thesis was awarded the National Excellent Doctoral Dissertation, and another graduate thesises was awarded the Nominated National Excellent Doctoral Dissertation.

本科专业
UG Program

院 系 Department/College	本科专业 UG Program
信息与电子工程学系 Dept. of Information Science and Electronic Engineering	信息与通信工程 Information and Communication Engineering
	电子科学与技术 Electronic Science and Technology
光电信息工程学系 Dept. of Optical Engineering	信息工程（光电） Information Engineering
控制科学与工程学系 Dept. of Control Science and Engineering	自动化 Automation
计算机科学与技术学院 College of Computer Science and Technology 软件学院 College of Software Technology	计算机科学与技术 Computer Science and Technology
	数字媒体技术 Digital Media Technology
	工业设计 Industrial Design
	软件工程 Software Engineering
生物医学工程与仪器科学学院 College of Biomedical Engineering & Instrument Science	生物医学工程 Biomedical Engineering
	电子信息技术及仪器 Electronic Information Technology & Instrument

学科
Disciplines

光学工程 Optical Engineering

> 光学工程 Optical Engineering
> 光通信技术 Optical Communication Technique

仪器科学与技术 Instrument Science and Technology

> 测试计量技术及仪器 Measuring and Testing Technologies and Instruments
> 电子信息技术及仪器 Electronic Information Technologies and Instrument

电子科学与技术 Electronics Science and Technology

> 物理电子学 Physical Electronics
> 微电子学与固体电子学 Microelectronics and Solid State Electronics
> 电路与系统 Circuits and Systems
> 电磁场与微波技术 Electromagnetic Field and Microwave Technology

信息与通信工程 Information and Communication Engineering

> 通信与信息系统 Communication and Information Systems
> 信号与信息处理 Signal and Information Processing

控制科学与工程 Control Science and Engineering

> 控制理论与控制工程 Control Theory and Control Engineering
> 检测技术与自动化装置 Detection Technology and Automatic Equipment
> 系统工程 Systems Engineering
> 模式识别与智能系统 Pattern Recognition and Intelligent Systems
> 导航、制导与控制 Navigation, Guidance and Control

计算机科学与技术 Computer Science and Technology

> 计算机应用技术 Computer Applied Technology
> 计算机系统结构 Computer Systems Organization
> 数字化艺术与设计 Digital Art and Design
> 电子服务 Electronic Service

设计学 * Design*

> 设计艺术学 * Art of Design*

软件工程 Software Engineering

> 计算机软件与理论 Computer Software and Theory

生物医学工程 Biomedical Engineering

> 生物医学工程 Biomedical Engineering

*只有硕士点
*Only master program

在校生（人）
Enrollments

院 系 Department/College	博士生 Doctor	硕士生 （全日制） Master	本科生 （09级、10级） Undergraduate
光电信息工程学系 Dept. of Optical Engineering	204	309	272
信息与电子工程学系 Dept. of Information Science and Electronic Engineering	218	429	617
控制科学与工程学系 Dept. of Control Science and Engineering	191	397	273
计算机科学与技术学院 College of Computer Science and Technology	462	902	814
生物医学工程与仪器科学学院 College of Biomedical Engineering & Instrument Science	156	269	386
软件学院 College of Software Technology			401
合计 Total	1231	2707	2362

本年度招生数
Freshmen

院 系 Department/College	博士生 Doctor	硕士生 （全日制） Master	本科生 （2011级） sophmore
光电信息工程学系 Dept. of Optical Engineering	54	117	150
信息与电子工程学系 Dept. of Information Science and Electronic Engineering	40	137	315
控制科学与工程学系 Dept. of Control Science and Engineering	38	119	133
计算机科学与技术学院 College of Computer Science and Technology	81	286	367
生物医学工程与仪器科学学院 College of Biomedical Engineering & Instrument Science	25	95	131
软件学院 College of Software Technology			192
合计 Total	238	946	1096

毕业生（人）
Graduates

院 系 Department/College	博士生 Doctor	硕士生 （全日制） Master	本科生 Undergraduate
光电信息工程学系 Dept. of Optical Engineering	33	96	144
信息与电子工程学系 Dept. of Information Science and Electronic Engineering	32	170	317
控制科学与工程学系 Dept. of Control Science and Engineering	24	105	149
计算机科学与技术学院 College of Computer Science and Technology	61	289	421
生物医学工程与仪器科学学院 College of Biomedical Engineering & Instrument Science	15	67	121
软件学院 College of Software Technology			139
合计 Total	165	866	1152

本科生深造与对外交流
Further Study and International Exchange

院系名称 Department/College	毕业生* Graduate*	出国深造人数 Further Study Aboard	出国深造率 Ratio of Further Studies Aboard	读研人数 （本校和外校） Further Study at Home	读研率 Ratio of Further Study at Home	对外交流人次 （本科生） International Exchange (UG Programs)
光电信息工程学系 Dept. of Optical Engineering	128	53	41.41%	50	39.06%	29
信息与电子工程学系 Dept. of Information Science and Electronic Engineering	293	67	22.87%	117	39.93%	47
控制科学与工程学系 Dept. of Control Science and Engineering	121	36	29.75%	49	40.50%	45
计算机科学与技术学院 College of Computer Science and Technology 软件学院 College of Software Technology	405	100	24.69%	131	32.35%	119
生物医学工程与仪器科学学院 College of Biomedical Engineering & Instrument Science	113	13	11.50%	47	41.59%	22
合计 Total	1060	268	25.28%	394	37.17%	262

*不包括竺可桢学院学生
* Except the students belong to Chu Kochen Honors College

新增国家规划教材
National Level Official Textbook

教材名称 Name	主 编 Chief Editor	出版社 Press
C语言程序设计(第2版) The C Programming Language	何钦铭，颜晖 He Qinming ,Yan Hui	高等教育出版社 Higher Education Press
过程控制工程 Process Control Engineering	戴连奎，于玲，田学民，王树青 Dai Liankui , Yu Ling , Tian Xuemin ,Wang Shuqing	化工出版社 Chemical Industry Press
过程控制系统与装置 Process Control System and Apparatus	张宏建，张光新，戴连奎 Zhang Hongjian , Zhang Guangxin, Dai Liankui	机械工业出版社 China Machine Press

国际学科竞赛奖
International Disciplinary Competition

竞赛名称 Competition	奖 项 Award	获奖名单及作品 Award List
国际大学生程序设计竞赛 2012 ACM International Collegiate Programming Contest Asia Region（ACM-ICPC）	亚洲赛区金牌 （8枚金牌） Gold Medalist in Asia Regional Contest	ArcadiaConvent：陈伟杰、陈聪、周雨晨 （天津、成都赛区） Essence：崔添翼、卢轶、张睿捷（天津、金华赛区） FinalStrike：黄乔、陈泽闽、罗杰巍（金华赛区） NuclearFusion：戴龙翔、俞骁尧、吴颖欣（金华赛区） way to answer：姜凯、唐雅洁、陈亨泓 （天津、杭州赛区）
美国IDEA设计大赛 2012 Industrial Design Excellence Awards	铜奖 Bronze	Touch-reader：韩立科
德国红点概念设计大赛 2012 International Design Competition 'Red Dot Design Award'	红点设计大奖（8项） Red Dot Design Award	作品FoldingBoat：吴疆、魏呈远、毛愚晰、王琦、 张宁、程宽、赵艺钧、蔡建幸 作品Animal Ride：陶冶、王冠云、楼硕圆、蔡建幸、 陈超、张钦皓、洪玉洁、黄洋 作品X°Dustbin：顼伟、孟鲁桦、沈月波、刘奕、 晟立 作品Quadrant：程宽、毛岱泽、许俊恒、张钦皓 作品Paper Pill：叶圆怡、邵帅、钱叶丹、叶海蔚、 丁凯芳 作品Water Collecting Cover：曹川、孙龙笛 作品Webbed Gloves：方潇远、胡一、谌惠、廖纯慧、 林书丹、侯国涛、潘佳琪、徐思思、曹晓晓 作品Aiding Cup：郦柯、史剑、马瑞、陈怡伶（浙江 大学与湖南大学合作完成）
	红点至尊奖（1项） Red Dot: best of the best	作品SolarCarton：吴疆、魏呈远、黄岚清、陶冶、 王亚男、程宽、张钦皓、杨宣星
德国IF概念设计大赛 2012 International IF Design Competition	IF 概念设计奖5项 IF Concept Award	Ad-Tramp：汪佳希 彭俊杰 沈美盈 张乐凯 应咪娜 Injection Assistant：张帆 王冠云 吴越 杨宣星 Happy-Scooter：王冠云 魏呈远 陶冶 石磊 Always together：侯国涛 胡一 潘佳琦 李文杰 Air-curtain Shower Cabin：刘奕
第一届小型组北美公开赛 The 1st RoboCup SSL North America Open	小型组冠军 Champion of Small Size League	殷鹏辉、赵越、沈一凡、毛翊超、戴萧何、宣羿、 王群

竞赛名称 Competition	奖 项 Award	获奖名单及作品 Award List
第十六届RoboCup机器人 世界杯比赛 The 16th Robot World Cup (RoboCup 2012)	小型组亚军 Runner-up of Small Size League	殷鹏辉、赵越、沈一凡、毛翊超、戴萧何、宣羿、 王群
	小仿人组四强 The Top 4 of Kid-Size Humanoid League	李深、刘赫、俞凌、金里扬、文玟、陈星宇、 戎元臻
	救援仿真组亚军 Runner-up of Rescue Simulation League	靳一凡、杨根茂、冯焕
RoboCup机器人大赛 伊朗公开赛 Robocup Iran Open 2012	救援仿真组冠军 Champion of Rescue Simulation League	靳一凡、杨根茂、冯焕
国际机器人设计大赛 2012 International Design Contest (IDC) Robocon	冠军 Champion	谷雨
	亚军 Runner-up	赵逸栋
	最佳人气奖 Best-Popular	赵逸栋
	最佳英文俳句 Best-English Haiku	谷雨
	最佳日文俳句 Best-Japanese Haiku	胡晓平
美国大学生数学建模竞赛 2012 Mathematical Contest in Modeling & Interdisciplinary Contest in Modeling (MCM/ICM)	国际特等奖SIAM奖 Outstanding Winner (SIAM Award)	傅诚、赵航琪
	国际特等奖提名 Outstanding Winner (Finalist)	于佳宁、刘斌、钱柏湖
	一等奖 Meritorious Winner	潘钦旭、张博、俞超文、陈昊、宋博雅、马骁勇、 李沐曦、朱玉可
	二等奖 Honorable Mention	黄敏之
第八届"Digilent"杯国际电子 设计大赛 （Digilent Design Contest 2012）	全球总决赛第一名 Champion	姚元、卢忠勇

国内学科竞赛奖
Civil Disciplinary Competition

竞赛名称 Competition	奖 项 Award	获奖名单 Award List
中国机器人大赛 暨RoboCup公开赛 China Robot Competition and the RoboCup China Open 2012	仿人组冠军 Champion of Kid-Size Humanoid League	刘赫，俞凌，金里扬，文玟，陈星宇，戎元臻，丁森科， 杨梓东，余冬冬，黄浩钧，项川，潘戈，曾婧
	仿人组技术挑战赛冠军 Champion of Technique Challenge of Kid-Size Humanoid League	刘赫，俞凌，金里扬，文玟，陈星宇，戎元臻，丁森科， 杨梓东，余冬冬，黄浩钧， 项川，潘戈，曾婧
	救援仿真组亚军 Runner-up of Rescue Simulation League	刘薇，连承亮，雷京颢
全国大学生数学建模竞赛 China Undergraduate Mathemati- cal Contest in Modeling 2012	一等奖 The 1st Prize	李畅达　吕勤毅
	二等奖 The 2nd Prize	马超璇　谢宇　姚宁诗，刘冬煜
浙江省大学生数学建模竞赛 Zhejiang Province Undergraduate Mathematical Contest in Modeling 2012	一等奖 The 1st Prize	杜旭　武绎宸　蒋明达
	二等奖 The 2nd Prize	费霄汉
	三等奖 The 3rd Prize	张砚涵　杨珑顾　周游　尚辛迪，邹楚杭
浙江省第九届大学生程序设计竞赛 The 9th Zhejiang Province Under- graduate Programming Contest	一等奖 The 1st Prize	绝对领域：万信逸，俞骁尧，李文超 兰斯洛特爵士：陈伟杰，周雨晨，姜凯 哥德尔：沈鑫，吴颖欣，李定华 梦游的猫咪老师：黄乔，李超，屈哲
	二等奖 The 2nd Prize	老和山下码农忙：高翔，张睿捷，许是程 永恒之炎：卢轶，戴龙翱，任青 日常：倪安迪，万宁，田斌
	三等奖 The 3rd Prize	金闪闪：何宁栩，李飞，徐仲文
全国大学生电子设计竞赛 National Undergraduate Electronic Design Contest 2012	信息安全技术专题 三等奖 Information Security ThemeThe 3rd Prize	月球车远程图像加密传输系统：毛宇毅，李顺斌， 汪恒智
	模拟电子设计专题 三等奖 Analog Electronic ThemeThe 3rd Prize	简易电子秤：李如晖，陈樱芝，赵越

专项奖
Special Awards

获奖学生 Winners	奖 项 Award	院 系 Department/College
王 川 Wang Chuan	2011-2012学年浙江大学 竺可桢奖学金（博士生） Chu Kochen Scholarship	光电信息工程学系 Dept. of Optical Engineering
何道敬 He Daojing	2011-2012学年浙江大学 竺可桢奖学金（博士生） Chu Kochen Scholarship	计算机科学与技术学院 College of Computer Science and Technology
吴辰夏 Wu Chenxia	2011-2012学年浙江大学 竺可桢奖学金（硕士生） Chu Kochen Scholarship	计算机科学与技术学院 College of Computer Science and Technology
吕家俊 Lv Jiajun	2011-2012学年浙江大学 竺可桢奖学金（本科生） Chu Kochen Scholarship	计算机科学与技术学院 College of Computer Science and Technology
王攀 Wang Pan	2012年王大珩光学奖 Wang Daheng Optical Scholarship	光电信息工程学系 Dept. of Optical Engineering
田跃龙 Tian Yuelong	2012-2013年度IBM 全球博士生英才奖 IBM PhD Fellowship Award	控制科学与工程学系 Dept. of Control Science and Engineering

院系设立的奖学金
cholarships of Department/College

院系名称 Department/College	奖学金名称 Scholarship	获奖人数 Awarded Number
光电信息工程学系 Dept. of Optical Engineering	敏通奖学金 "Mintron" Scholarship	3
	舜宇奖学金 "Sunny" Scholarship	50
	宝成奖学金 Pou Chen Scholarship	12
	曹光彪奖学金 Chao Kuang Piu Scholarship	19

院系设立的奖学金
Cholarships of Department/College

院系名称 Department/College	奖学金名称 Scholarship	获奖人数 Awarded Number
信息与电子工程学系 College of Computer Science and Technology	ISEE荣誉奖 ISEE Honor Award	10
	ISEE新人奖 ISEE New Investigator Award	40
	ISEE单项贡献奖 ISEE Contribution Award	10
	ISEE助学金 ISEE Grant	10
	浙大信电—德州仪器大学生奖助学金 Dezhou Instrument Scholarship and Grant	24
	浙大信电—大华奖助学金 DaHua Scholarship and Grant	8
	浙大信电—高逸奖助学金 GaoYi Scholarship and Grant	11
控制科学与工程学系 Dept. of Control Science and Engineering	仁爱奖学金 Ren Ai Scholarship	20
	春晖奖学金 "Chunhui" Scholarship	3
	E+H奖学金 E+H Scholarship	10
	中控奖学金 "Zhongkong" Scholarship	26
计算机科学与技术学院 College of Computer Science and Technology	"视易之星"奖学金 "Shiyi Star" Scholarship	10
	"湘瑞教育"奖学金 "Xiangrui Education" Scholarship	5
	中加双学位班奖学金 China-Canada Double Degree Scholarship	10
	何志均教育基金奖学金 He Zhijun Education Foundation Scholarship	10
	Google优秀奖学金 Google Excellent Scholarship	5
	Google Anita Borg计算机女性奖学金 Google Anita Borg Computer Female Scholarship	6
	仟游奖学金 2K Scholarship	12
	软件、数字媒体基地奖学金 Software, Digital Media Base Scholarship	102
生物医学工程与仪器科学学院 College of Biomedical Engineering & Instrument Science	浙大生仪—德州仪器大学生奖助学金 Texas College Scholarship	16

全国优博论文奖
National Excellent Doctoral Dissertation

论文题目：跨媒体检索与智能处理关键技术研究
作　者：杨易
指导教师：潘云鹤　庄越挺
一级学科：计算机科学与技术

Title: Research of Cross-Media Retrieval and Intelligent Processing Technologies
Author: Yang Yi
Supervisor: Pan Yunhe，Zhuang Yueting
Discipline: Computer Science and Technology

　　近年来多媒体数据逐渐呈现出两个新特点：一是多媒体数据规模日益庞大，种类日益繁多；二是多媒体数据的组织和表达形式日趋复杂，跨媒体研究应时而生。一方面，跨媒体研究继承和涵盖了传统多媒体研究的内容。另一方面，跨媒体研究又面临着许多新挑战。本文围绕跨媒体检索与智能处理技术展开研究，针对跨媒体检索、相关反馈、跨媒体表达、跨媒体推理、跨媒体体数据管理中的一些具体问题提出了解决方案。

With the fast development of computer storage and network technologies, there are more and more multimedia data to be accessed, browsed and used. It therefore turns out a great challenge to manage and utilize them efficiently and effectively. On the one hand, there are a variety of multimedia types, including text, image, audio, graphics, video, 3D model and so on. On the other hand, it is a potential tendency that the multimedia data are organized in a complex way. The cross-media research, which aims to manage and utilize the heterogeneous multimedia data efficiently and effectively via a unified framework, is becoming an important research topic. This thesis focuses on cross-media research and it covers cross-media retrieval, cross-media representation, cross-media reasoning and cross-media data management technologies.

全国优博论文提名奖
Nominated National Excellent Doctoral Dissertation

论文题目：金属-介质微纳复合结构及光子器件应用
作　者：郭欣
指导教师：童利民
一级学科：光学工程

Title: Hybrid metallic-dielectric micro- and nanostructures for photonic components
Author: Guo Xin
Supervisor: Tong Limin
Discipline: Optical Engineering

　　如何实现表面等离激元的高效率耦合与激发，并在维持光场强约束的同时降低传输损耗，是目前深亚波长尺度光波导结构及器件应用所面临的关键科学问题。针对上述问题，论文提出金属-介质纳米线的近场直接耦合方法，首次实现了金属纳米线中表面等离激元的高效耦合激发，耦合效率从常规的低于10%提高到82%，并在此基础上实现了分束器、干涉器、谐振腔等"光子-表面等离激元"复合微纳光子器件，为光子回路突破衍射极限提供了一种新的途径。

High-efficiency surface plasmon polariton (SPP) coupling and excitation, as well as simultaneous realization of strong confinement and low propagation loss, are great challenges faced by deep-subwavelength scale waveguide structures and devices. To address these issues, we proposed a near-field direct coupling method for interfacing metallic and dielectric nanowires, and demonstrated for the first time high-efficiency coupling and excitation of deep-subwavelength scale metallic nanowires. Coupling efficiency as high as 82% have been obtained, which is much higher than the efficiency with conventional approaches (usually less than 10%). Based on the near-field direct coupling method, hybrid photon-plasmon nanophotonic components and devices including optical splitters, interferometers and resonators were successfully realized, suggesting a new route to surpass the diffraction limit in photonic circuits.

教育教学亮点
Teaching Highlights

光电-滨松联合培养博士生项目
Joint Training Program of Doctoral Students between Department of Optical Engineering, Zhejiang University and Hamamatsu Photonics

院　系：光电信息工程学系
负责人：刘华锋教授

Department/College: Optical Engineering
Director: Prof. Liu Huafeng

　　光电－滨松联合培养博士生项目起始于1993年，已累计培养了近40位高质量的博士研究生。光电信息工程学系与日本滨松光子学株式会社强强联合，成立了国际光子学实验室实体，以该实体为据点，开展联合培养博士生选拔、管理、论文指导等工作。该项目重视细节训练，学生在日本留学期间参与专业学会、学术报告、国际会议和产业展览等交流实践环节。此项工作入选了2012年教育部组织的首批21个"高校与科研院所联合培养研究生典型案例"。

The Department of Optical Engineering at Zhejiang University has initiated an educational program for doctoral students by placing them in the research and development units of Hamamatsu Photonics in Japan since 1993. Over the last 20 years, this program opens up of new career paths for near 40 graduate students. This educational and research collaborative internship program is supported by Hamamatsu Photonics which in turn establishing International Photonics Laboratory (IPL) in Zhejiang University. A planning and evaluation committee has been organized through IPL, which will select students to be sent for successive long periods of time under guidance of mentors from ZJU and Japan. Students on PhD courses in graduate schools are needed to be trained, not simply as researchers but also as manpower with such potential, via the promotion of collaborations between industry and academia. This joint program is awarded "The 21 honorable cases of Joint-Training Program between Institutes and Universities" organized by Ministry of Education of China last year.

浙江大学计算机技术与工程实验教学中心
Experimental Teaching Center of Computer Technology and Engineering, Zhejiang University

院　系：计算机科学与技术学院
负责人：何钦铭教授

Department/College: Computer Science and Technology
Director: Prof. He Qinming

　　近年来在10项国家级专业建设项目（5项特色专业、2项创新试验区、卓越工程师计划、基础学科拔尖人才培养计划、国家动画教学研究基地）、8项国家级课程建设项目（6门精品课程、2门双语示范课程）以及国家教学团队项目支持下，实验教学中心整合资源、发挥优势、产学研联动，建设了由五大培养链构成的专业实践能力培养体系，建立了一批开放型、仿真型、自动评测型的网络化实验教学平台，实现了专业技能培养、创新能力培养和工程体验相结合的实验新模式。该中心于2012被教育部认定为"十二五"国家级实验教学示范中心。

Supported by 10 national major development programs (including 5 National Highlighted Major programs, 2 Talent Cultivation Pilot Area programs, National Cultivation Program for Distinguish Engineering Talents, National Cultivation Program for Scientific Research Talents, and National Animation Teaching and Research Base), 8 national course development programs (including 6 National Excellent Courses and 2 National Bilingual Demonstration Courses), and a National Outstanding Teaching Team, the Experimental Teaching Center (ETC) has integrated our resource, given full play to our advantages, and pushed forward the catenation of teaching, research and industrial circles. A professional practice training system is built with a batch of network-based open-style experiments which combines the development of professional skills, building of innovation ability, and engineering experience is achieved. The ETC has been approved in 2012 by the Ministry of Education as one of the National Experimental Teaching Demonstration Center of Higher Educational Institutes.
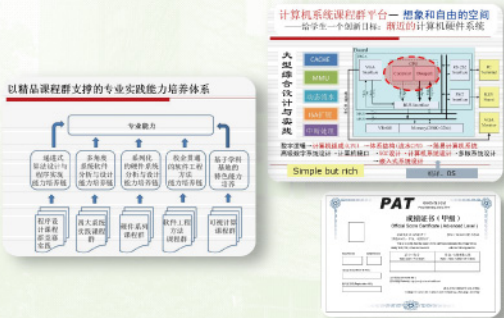
海外交流
INTERNATIONAL EXCHANGE & COOPERATION

　　学部2012年教师出访参加学术会议、合作交流395人次，接待166人次国外学者来访进行学术交流，举办国际会议7次。学部与英国Bristol大学工学部签署合作协议，与美国康涅狄格大学签署水下信息科学与技术联合实验室筹建备忘。学部各院系与国外著名大学继续加强学生联合培养，推进教师科研合作，进一步提升了学部的科研和教学水平。

About 395 teachers visited abroad for academic conference and the cooperation research. More than 166 world-renowned scholars were invited to visit FIT for lectures and academic communication. About 7 international conferences were held successfully. The memorandum for the construction of ZJU-UConn Joint Laboratory for Underwater Information Science and Technology and agreement between Faculty of Engineering, UOB and FIT, ZJU were signed respectively. The departments and colleges of FIT strengthened the student exchanges and teacher cooperation research continuously. It further promoted the level of teaching and science research.

主办国际会议
Host International Conferences

序号 No.	会议名称 Conference	时间 Date
1	分布式传感计算国际会议 The 8th IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS '12)	May 16-18, 2012
2	先进成型与材料加工技术国际研讨会 2012 International Conference on Advanced Molding and Materials Processing Technology	Aug. 22-24, 2012
3	IEEE国际电子商务联合学术大会 2012 International Joint Conference on e-Business (ICEBE2012 & CEC2012)	Sept. 9-11, 2012
4	第七届中德光电子与微电子器件和电路双边研讨会 The 7th Sino-German Joint Symposium on Opto & Microelectronic Devices and Circuits	Sept. 24-27, 2012
5	第四届信息可视化与人机交互国际会议 The International Symposium on Visual Information Communication and Interaction (VINCI 2012)	Sept. 27-28, 2012
6	光学薄膜前沿国际会议 Frontiers of Optical Coatings (FOC 2012)	Oct. 15-18, 2012
7	第八届IEEE国际粒计算学术会议 The 2012 IEEE International Conference on Granular Computing (GRC2012)	Nov. 11-13, 2012

2012要闻
2012 NEWS

1月19日，信息学部举行专门委员会全体会议。
On Jan. 19 , the special committee meeting of FIT was held .

2月22日，信息学部与英国Bristol大学工学部签署合作协议。
On Feb.22, the agreement between Faculty of Engineering, UOB, and Faculty of Information Technology,ZJU, was signed .

3月和6月，以"信息安全"和"自由探索"为主题的学部青年教师论坛活动成功举办，9个项目获资助。
The FIT Young Teacher Forums, on the theme of "Information Security" and "Free Exploration" , were held in March and June. Nine projects were supported.

4月13日，信息学部主办召开浙江大学西湖学术论坛第86次会议—"海洋信息工程技术"研讨会。
The symposium on the development of marine information engineering technology sponsored by FIT,also named the 86th ZJU West Lake Forum , was held on April 13.

6月1日，信息学部第二届青年教师奖授予10位40岁以下的青年教师。
On June 1, the awarding ceremony for the 2nd Young Teacher Award of FIT was held, 10 outstanding young teachers under 40 years old won the prize.

6月5日，信息学部与康涅狄格大学签署水下信息科学与技术联合实验室筹建备忘录。
On June 5, the memorandum was signed for the construction of ZJU-UConn Joint Laboratory for Underwater Information Science and Technology.

6月22日，CPS重大科学问题高校协同创新论坛在浙大举行，赛博（CYBER）协同创新中心成立。

On June 22, Collaborative Innovation Forum on Major Issues in CPS was held at ZJU. Cyber Innovation Joint Research Center was established.

7月7日，信息学部召开暑期工作会议，探讨人才队伍建设问题。

On July 7, the summer conference on talent team building of FIT was held successfully.

7月~12月，赛博（CYBER）协同创新中心各项培育建设工作稳步推进。

From July to December, the cultivation and construction of Cyber Innovation Joint Research Center were developed.

"光学工程"学科在2012年全国高校学科评估中名列第一。

Optical Engineering ranked first in the national evaluation on discipline in 2012.
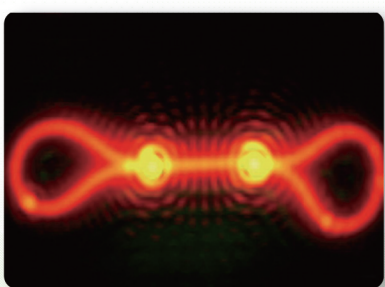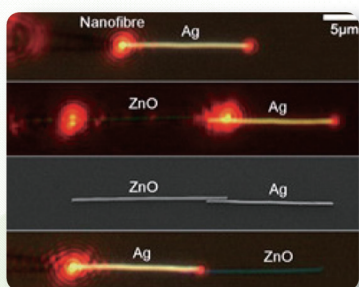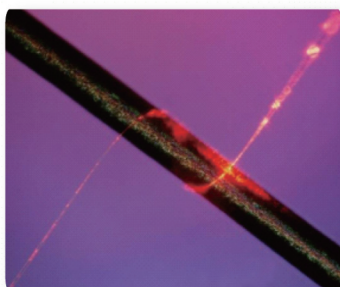
工业控制技术国家重点实验室在2012年国家重点实验室评估中获优异成绩。

The state key laboratory of industrial control technology gained the excellence in the evaluation of state key laboratory in the field of information science and technology in 2012.

信电系张宏纲教授获选受聘为法国大学联盟UEB国际杰出讲座教授。

Prof. Zhang Honggang from Dept. of Information Science and Electronic Engineering was appointed an International Chair Professor of Excellence by European University of Brittany (UEB).

计算机学院陈纯教授荣获2012年全国五一劳动奖章。

Prof. Chen Chun from CS College won the national May 1st Labor Medal in 2012.

计算机学院周昆教授荣获第十二届中国青年科技奖和霍英东教育基金会第十三届高等院校青年教师奖。

Prof. Zhou Kun from CS College was bestowed the 12th National Award for Youth in Science & Technology and the 13th Young Teacher Award of Henry Fok Education Foundation.

光电系尹文言教授和何赛灵教授、当选为2013年IEEE Fellow。

Both Prof. Yin Wenyan and Prof. He Sailing from Dept.of Optical Engineering are 2013 newly elevated IEEE Fellows.

浙江大学信息学部

编 后

时光荏苒，在学校党委及行政的领导下，在学校各职能部门的支持下，在各院系广大教职工的共同努力下，信息学部已经走过了四年！一年一度的学部年报见证了各院系的迅速发展，正值2012年的年报（Annual Report 2012）新鲜出炉之际，作为主编的我们心中充满了自豪与感谢，衷心地感谢学校给予我们学部各方面的支持，感谢院系各位老师的努力与帮助！

2012年，学部所属各院系在教师队伍建设、科学研究、人才培养等方面均取得了令人瞩目的成绩。人才队伍建设的扎实推进，为学科发展打下良好基础；面向国家重大战略需求和国际学术前沿的研究成果层出不穷，硕果累累；本科生和研究生教育教学质量进一步提升，培养了更多优秀学子……然而，记录学部及院系学科发展的学部年报篇幅有限，无法将老师们越来越丰硕的成果一一呈现，在兴奋之余，作为主编的我们难免有些遗憾。但我们相信，一流的大学以一流的学科为基础，一流的学科以一流的人才为支撑，在学部这个以人为本、以和为贵、和而不同、谐而有序的大家庭里，各学科稳步、健康、快速发展，我们学部的明天将会更美好！

编 者

2013年5月25日于求是园