

# ShanghaiTech University

# SIST NEWSLETTER



## School of Information Science and Technology

### Prof. Shuguang Cui Elevated Newest IEEE Fellow

Prof. Shuguang Cui, visiting professor at the School of Information Science and Technology was conferred as the newest IEEE Fellow of 2014 by the Board of Directors of the Institute of Electrical and Electronics Engineers. In 2013 only 293 IEEE members received this distinction.

IEEE Fellow is a distinction reserved for selecting IEEE members whose extraordinary accomplishments in any of the IEEE fields of interest are deemed fitting of this prestigious grade elevation. The total number selected in any one year does not exceed one-tenth of one percent of the total voting Institute membership. Prof. Cui received this honor merely 8 years after obtaining his Ph.D. from Stanford.



### Three Nobel Laureates Join ShanghaiTech

Till now, three Nobel laureates have joined ShanghaiTech. They are Prof. Kurt Wüthrich at the iHuman Institute of ShanghaiTech University, Prof. Roger D. Kornberg and Prof. James E. Rothman at the Shanghai Institute for Advanced Immunochemical Studies of ShanghaiTech University.

### SIST Professors Invited to the 5G Wireless Workshop

On behalf of the School of Information Science and Technology at ShanghaiTech University, Prof. Zhi Ding and Prof. Shuguang Cui took part in the Future (5G) ICT Summit & 5G Mobile and Communication Technologies Workshop, which was Hosted by FuTURE FORUM, co-organized by METIS Project and China Mobile and held in Beijing during Oct 29th – Oct 30th.

### Prof. Stephen Boyd Draws Large Crowd at SIST Seminar



Prof. Stephen Boyd, Samsung Professor of Engineering, and a Professor of Electrical Engineering at Stanford University, visited the School of Information Science and Technology at ShanghaiTech University on November 8th and presented an exciting seminar on Convex Optimization: From Real-Time Embedded to Large-Scale Distributed. Over 100 graduated students and faculty members from ShanghaiTech, Southeast University and Shanghai University, enjoyed the high-quality seminar, which stimulated many productive discussions.

Prof. Boyd's talk focused on two extremes: real-time embedded convex optimization, and distributed convex optimization. For the first one, code generation can be used to generate extremely efficient and reliable solvers for small problems, which can execute in milliseconds or microseconds, and are ideal for embedding in real-time systems. At the other extreme, Prof. Boyd described methods for large-scale distributed optimization, which coordinate many solvers to solve large problems. Prof. Boyd's talk is open, humorous, informative, and inspiring. The large crowd at the seminar includes faculty members from as far as Nanjing. In addition, the audience was also treated with some aspiring insights on how to conduct high-quality research and how to become a real scholar.

### SIST Sponsored the Young Idea Award Contest

A Contest named Young Idea Award was successfully held on November 10th, which was sponsored by SIST and received kind support from the office of Financial Services and the School of Entrepreneurship and Management at ShanghaiTech. Young Idea Award was designed for encouraging graduate students who have different and innovative understanding on scientific research or entrepreneurship. All the students from ShanghaiTech University were welcomed to join in the contest.

Over 20 students in eight teams took part in the contest. The topic named Creative Campus, which was designed by Yuying Bao, Xiangyu Jia, Ziran Xing from SIST, finally won the first prize.



### Officers from NSFC Visit SIST

Two officers of the National Natural Science Foundation of China, Mr. Zhaotian Zhang and Ms. Xiaoyun Xiong, visited the School of Information Science and Technology at ShanghaiTech University on September 28th.

They received warm welcome by SIST faculty professors. Prof. Zhi Ding, Prof. Shuguang Cui and Prof. Pingqiang Zhou met Mr. Zhaotian Zhang and Ms. Xiaoyun Xiong, introduced our university and school, and had a constructive talk with them.



## SIST Seminars



The School of Information Science and Technology (SIST) from ShanghaiTech University (ShanghaiTech) successfully hosted a series of seminars for graduate students and faculty members. The seminars took place on each Wednesday afternoon since September 25, 2013 at ShanghaiTech Academic Building, 319 Yueyang Road, Xuhui District, Shanghai. Prof. Shuguang Cui, a visiting professor at SIST from Texas A&M University, has been chairing the seminars.

By now, SIST has invited 11 international and domestic speakers, from world-class universities, leading industry companies and active research institutes. Focusing on graduate student education and scientific research over information science and technology, these distinguished speakers presented their recent exciting research findings and discussed important technological progresses. Some examples below:

Prof. Pinyan Lu, a rising star in computation theory, a Lead Researcher at the Theory Group of Microsoft Research Asia, and a Chair Professor at Shanghai Jiao Tong University, gave a seminar about Classifying Computational Counting Problems.

Prof. Stephen Boyd, a world-known leader in optimization and control, the Samsung Professor of Engineering, and a Professor of Electrical

Engineering in the Information Systems Laboratory at Stanford University, presented a talk on Convex Optimization: From Real-Time Embedded to Large-Scale Distributed.

Prof. Eric Xing, a famous expert on machine learning and an Associate Professor in the School of Computer Science at Carnegie Mellon University, gave a talk on Algorithmic and System Interface of BIG LEARNING.

Prof. Rui Zhang, a high-quality and productive researcher in wireless communication, an Assistant Professor from National University of Singapore, and a Senior Scientist from the Institute for Infocomm Research of Singapore, talked about Wireless Information and Power Transfer with MISO Beamforming.

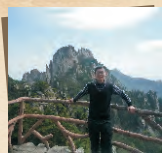
All the SIST graduate students attended the seminars, enjoyed the inspiring talks, and interacted with the speakers. They wish to have more such interesting academic activities.

## QUOTES FROM SIST STUDENTS



**Kai Liao:**

Success cannot be everlasting and failure is not doomed either. We choose how we live.



**Xuechuan Hu**

You mean the whole world to an engineering boy, if he seizes every chance to talk to you.



**Denghui Li**

Ambition, Patience, Discipline, Determination.



**Shen Shi**

From here we sail, braving wind and waves.



**Meng Liu**

It's my pursuit of life to sleep at 10 o'clock.



**Si Wu**

I love Shanghai, and more for ShanghaiTech.



**Guangning Che**

Hop like a fish in the sea, fly like a bird across the sky.



**Yuguang Zou**

As half of the semester has passed, elusive but crucial knowledge appears in many courses. Though we need more time, we'd better improve our time management instead of staying up late.



**Jiahao Cao**

Two roads diverged in a wood, and I took the one less traveled by. And that has made all the difference.



**Lu Cao**

When we worry about the dilemmas we face, it's just a matter of time actually.

## SIST STUDENT SPARE TIME



# NEW FACULTY PROFILE: PROF. JUNRUI LIANG

*(In November 2013, SIST welcomed Dr. Junrui Liang (Ph.D. 2010, The Chinese University of Hong Kong) on its faculty. Let's listen to his sharing about himself and joining ShanghaiTech.)*



**Junrui Liang**

Tenure-Track Assistant Professor

I am glad to join the newly established ShanghaiTech University as a faculty member in School of Information Science and Technology (SIST). Thanks to the start-up support from the university, I am now stepping into a new stage of my academic career; moreover, given the vision and mission of ShanghaiTech, I am even more excited for the opportunity to grow with such a great enterprise.

Looking back to my career path, my personality has been developed based on several important experiences. Born and raised in a big and local family in Pearl River Delta of south China, I treasure traditional Chinese culture and value. Started my early school life in Guangdong Olympic School, the only official full-time school in Guangdong province educating gifted students in mathematics, physics, and chemistry, I dreamed to be a scientist since teenage. On the other hand, experienced the amazing economic growth in my hometown Shunde, one of the earliest testing fields of China's reform and opening-up policy since 1980s, I am always enthusiastic about entrepreneurial stories in

my surroundings and delighted for witnessing the renaissance of China in all areas. At that time when I was offered a faculty position in ShanghaiTech, I suddenly realized a fortune for integrating my interests on patriotism, scientific research, and entrepreneurial enthusiasm together in my future career.

Before year 2000, when I graduated from high school, Guangdong people seldom went out the province for higher education, because it seemed that staying inside can already make a good living. Yet, regarding such conservation as detrimental for the development of their offspring in a long run, Shunde government has started up an educational foundation, which aimed at “kicking” youngsters out for pursuing undergraduate study at some top universities in China. I was a beneficiary of this unselfish support from my home government, not only for the money, which has covered my tuition fee for four years, but also the driven force afterwards, which has broadened my horizon beyond merely making a comfortable living.

My undergraduate study in Shanghai Jiao Tong University (SJTU) has aroused my self-awareness. As one of the oldest universities in China, she provided me with solid professional training in Instrument Science and Engineering, reminded me the responsibility towards my country and people, and more importantly, cultivated my independent thinking and living abilities. When most classmates were busily preparing all sorts of certificates for future work or taking TOFLE and GRE for graduate study abroad, I spent much time to exploit my interest on the discipline by applying related knowledge in extracurricular hands-on projects. I was also eager to see the outside world; yet, I told myself, why hurry to learn about others' culture before thoroughly understand our own. Therefore I have taken many “useless” elective courses such as Confucianism, Chinese seal carving, etc. at that time.

I am kind of freak in university for not planning future. But fortune enough, I was offered a direct admittance to the graduate school of SJTU. Still in the same department, I worked on a project about transcutaneous power link towards my master degree. Although I was told to make a practical prototype, I gradually dug deep into the theoretical details of Class-E power amplifier (PA), a key part in wireless power transmitter.

Thanks to the tolerance of my advisor Dr. Chunyu Zhao, I continued my insistence on theoretical work of Class-E PA. Such interest has even lasted after I left SJTU, and later led to the publication of my first IEEE Transaction paper.

The research experience in SJTU has made me more confident for persisting my academic pursuit. Later in Department of Mechanical and Automation Engineering, The Chinese University of Hong Kong (CUHK), I started my PhD study, working on vibration energy harvesting using piezoelectric materials. Energy is a big issue in modern society, in particular, nowadays there are tons of distributed and mobile electronics, all of which require long lasting off-grid power supplies. Since energy exists in different forms, such as solar, heat, vibration, etc., in our surroundings; the most convenient power solution is to make such distributed devices self-sufficient by scavenging energy from their ambience. The role of my major contribution in this area is kind of bridging mechanical and electrical disciplines towards a holistic analysis and design methodology for the coupled electromechanical energy system. At the same time of harvesting energy, I have also harvested several research awards during those years. I appreciated my study and working experiences in Hong Kong. From the enlightenments and role models of my advisors Prof. Wei-Hsin Liao in CUHK and Prof. Henry S. H. Chung in City University of Hong Kong, I learned about how to be a responsible and modest scholar.

Generous support, humanism, solid training, academic freedom, interdisciplinary interaction, all these are crucial for the growth of aspiring talents towards modern elites, who possess independent and critical thinking, self-discipline, attention on details, open mind, persistence, tolerance about different idea, and modesty towards knowledge and others. Besides the excellent hardware being constructed and her far-reaching vision and ambitious mission, ShanghaiTech attracts me most for the reforming effort to guarantee the aforementioned concerns of my dream university. I am happy to start the new stage of my academic pursuit in ShanghaiTech University, and proud of becoming a participant in this entrepreneurial story.

# JOIN SIST !

## OUR OPEN TENURE-TRACK AND TENURED POSITIONS

The newly launched ShanghaiTech University invites highly qualified candidates to fill multiple tenure-track/tenured faculty positions as its core team in the School of Information Science and Technology (SIST). Candidates should have exceptional academic records or demonstrate strong potential in cutting-edge research areas of information science and technology. They must be fluent in English. Overseas academic connection or background is highly desired.

ShanghaiTech is built as a world-class research university for training future generations of scientists, entrepreneurs, and technological leaders. Located in Zhangjiang High-Tech Park in the cosmopolitan Shanghai, ShanghaiTech is ready to trail-blaze a new education system in China. Besides establishing and maintaining a world-class research profile, faculty candidates are also expected to contribute substantially to

graduate and undergraduate education within the school.

### Academic Disciplines:

We seek candidates in all cutting edge areas of information science and technology. Our recruitment focus includes, but is not limited to: computer architecture and technologies, nano-scale electronics, high speed and RF circuits, intelligent and integrated signal processing systems, computational foundations, big data, data mining, visualization, computer vision, bio-computing, smart energy/power devices and systems, next-generation networking, as well as inter-disciplinary areas involving information science and technology.

### Compensation and Benefits:

Salary and startup funds are highly competitive, commensurate with experience and academic accomplishment. We also offer a comprehensive benefit package to employees and eligible dependents,

including housing benefits. All regular ShanghaiTech faculty members will be within its new tenure-track system commensurate with international practice for performance evaluation and promotion.

### Qualifications:

- A detailed research plan and demonstrated record/potentials;
- Ph.D. (Electrical Engineering, Computer Engineering, Computer Science, or related field);
- A minimum relevant research experience of 4 years.

### Applications:

Please submit (in English) a cover letter, a 2-page research plan, a CV plus copies of 3 most significant publications, and names of three referees to: [sist@shanghaitech.edu.cn](mailto:sist@shanghaitech.edu.cn) by March 31st, 2014 (until positions are filled). For more information, visit <http://www.shanghaitech.edu.cn>.

## FACULTY RECRUITMENT NEWS

SIST is undergoing the third round of faculty recruitment. Shortlisted faculty candidates have been invited to onsite interviews during Mid-December before Christmas. Current SIST faculty members and other SIST search committee members will be meeting the candidates in Shanghai.

