participating countries and regions and 44 U.S. States. The Technology and Management won the Lucent Global Science Scholars Award in consecutive year. Another high-flying dual-degree program student who has been selected for the scholarship. “I was very fortunate to have been given the opportunity to work with scholars from China, Mexico, Germany and USA. We worked with Lucent Labs scientists. I presented it to the ten Nobel Prize winners. It is an exciting and rewarding program, and just immense,” Jovian recalled with excitement. "The well-designed program of Global Science Scholars Summit, which included a chance to meet with Bell Labs researchers and the Nobel Prize winner in Physics, Professor Horst Stormer." said Jovian. "I learned a lot from the project and the experience. We had 4 days to work on the presentation. It was a great experience. I have worked on many projects in my leisure time. It is an exciting and rewarding program. I will work hard to make the most of the experience."

For the next internship, Jovian said he would like to spend it at the University of Hong Kong. "I have visited the University of Hong Kong and I am impressed with the facilities. I am sure it will be an exciting experience."

Lucent Technologies press release dated July 07, 2005. We have extremely high hopes for this year’s scholars,” said Chris Park, President of Lucent Foundation, a source quoted from the press release.

Lucent Technologies in China. He said he had visited the China's operations. The drive got underway in May with the unveiling of the first SENG logo. SENG's role as a leading player in many of the engineering developments within and outside Hong Kong. The innovative, front-running nature of the School and illustrates the innovative, front-running nature of the School and illustrates SENG's role as a leading force for innovation and change. The Hong Kong University of Science and Technology was the only Hong Kong institution to achieve a top 50 ranking. The drive got underway in May with the unveiling of the first SENG logo. SENG's role as a leading player in many of the engineering developments within and outside Hong Kong. The innovative, front-running nature of the School and illustrates SENG's role as a leading force for innovation and change.
Academic Excellence

Dean of Engineering
Prof Philip Chan

Innovation, teaching and research in Hong Kong and the region.

Number 20 by the University's vision for development into a world academic leader over, also known as the Vision 2020 Plan. It sets out the

Indeed, the SENG logo seems to be a lucky icon. The School was ranked

Successful teachers help to produce successful students and our

students have certainly been showing their competitive edge. As

As you will notice, this issue of In Focus looks

New Academic Appointments

New Adjunct Faculty Appointed

PhD - University of Illinois, Urbana-Champaign
Prof Zheng Zhang

Industrial Engineering and Logistics Management

PhD - Operation Management, HKUST
Prof Fan Zhang

PhD - Computer Science, HKUST
Prof Fan Zhang

Assistant Professor, Electrical and Electronic Engineering
PhD - CUHK
Assistant Professor, Electrical and Electronic Engineering
Prof Xin Li, Cindy
Assistant Lecturer, Civil Engineering
Associate Professor, Computer Science
PhD - University of Michigan
Assistant Professor, Computer Science
Prof Zonghua Gu
Assistant Professor, Computer Science
Prof Lei Chen

Dr Haiqing Song, a graduate in IEEM, has been named Winner of

Kar-yu Mak, final year student of Computer Engineering and

International Honors & Awards

Prof Moe Cheung, Head of Civil

Prof Christopher Chao for his

Conditioning Engineers
Refrigerating and Air-
American Society of Heating,

Meeting for Future of Electron Devices” held in Kansai, Japan in

Rectangular Cross-Section” at the 2005 IEEE International

Short-Channel Threshold Voltage Model for FinFET with Non-


awarded the Motorola-IEEE/CPMT Society Graduate Student

Prof Furong Gao of Chemical Engineering, co-

the winner in recognizing the

(ISEG). The Award is presented to

Award of the International Society

Prof Tongxi Yu, Head of Mechanical Engineering, has been

China.

Association for Computational Linguistics.

Translation”. The paper drew much attention at the

“Word Sense Disambiguation vs. Statistical Machine

Prof Dekai Wu of Computer Science has published

Active RFID”. This is the first paper addressing the localization

Sinica, a very prestigious and influential journal published in

research work on the development of

the Canadian Academy of Engineering

Prof Moe Cheung, Head of Civil

Prof Christopher Chao for his

Conditioning Engineers
Refrigerating and Air-
American Society of Heating,

Meeting for Future of Electron Devices” held in Kansai, Japan in

Rectangular Cross-Section” at the 2005 IEEE International

Short-Channel Threshold Voltage Model for FinFET with Non-


awarded the Motorola-IEEE/CPMT Society Graduate Student

Prof Furong Gao of Chemical Engineering, co-

the winner in recognizing the

(ISEG). The Award is presented to

Award of the International Society

Prof Tongxi Yu, Head of Mechanical Engineering, has been

China.

Association for Computational Linguistics.

Translation”. The paper drew much attention at the

“Word Sense Disambiguation vs. Statistical Machine

Prof Dekai Wu of Computer Science has published

Active RFID”. This is the first paper addressing the localization

Sinica, a very prestigious and influential journal published in

research work on the development of

the Canadian Academy of Engineering

Prof Moe Cheung, Head of Civil

Prof Christopher Chao for his

Conditioning Engineers
Refrigerating and Air-
American Society of Heating,

Meeting for Future of Electron Devices” held in Kansai, Japan in

Rectangular Cross-Section” at the 2005 IEEE International

Short-Channel Threshold Voltage Model for FinFET with Non-


awarded the Motorola-IEEE/CPMT Society Graduate Student

Prof Furong Gao of Chemical Engineering, co-

the winner in recognizing the

(ISEG). The Award is presented to

Award of the International Society

Prof Tongxi Yu, Head of Mechanical Engineering, has been

China.

Association for Computational Linguistics.

Translation”. The paper drew much attention at the

“Word Sense Disambiguation vs. Statistical Machine

Prof Dekai Wu of Computer Science has published

Active RFID”. This is the first paper addressing the localization

Sinica, a very prestigious and influential journal published in

research work on the development of

the Canadian Academy of Engineering

Prof Moe Cheung, Head of Civil

Prof Christopher Chao for his

Conditioning Engineers
Refrigerating and Air-
American Society of Heating,

Meeting for Future of Electron Devices” held in Kansai, Japan in

Rectangular Cross-Section” at the 2005 IEEE International

Short-Channel Threshold Voltage Model for FinFET with Non-


awarded the Motorola-IEEE/CPMT Society Graduate Student

Prof Furong Gao of Chemical Engineering, co-

the winner in recognizing the

(ISEG). The Award is presented to

Award of the International Society

Prof Tongxi Yu, Head of Mechanical Engineering, has been

China.

Association for Computational Linguistics.

Translation”. The paper drew much attention at the

“Word Sense Disambiguation vs. Statistical Machine

Prof Dekai Wu of Computer Science has published

Active RFID”. This is the first paper addressing the localization

Sinica, a very prestigious and influential journal published in

research work on the development of

the Canadian Academy of Engineering

Prof Moe Cheung, Head of Civil

Prof Christopher Chao for his

Conditioning Engineers
Refrigerating and Air-
American Society of Heating,

Meeting for Future of Electron Devices” held in Kansai, Japan in

Rectangular Cross-Section” at the 2005 IEEE International

Short-Channel Threshold Voltage Model for FinFET with Non-


awarded the Motorola-IEEE/CPMT Society Graduate Student

Prof Furong Gao of Chemical Engineering, co-

the winner in recognizing the

(ISEG). The Award is presented to

Award of the International Society

Prof Tongxi Yu, Head of Mechanical Engineering, has been

China.

Association for Computational Linguistics.

Translation”. The paper drew much attention at the

“Word Sense Disambiguation vs. Statistical Machine

Prof Dekai Wu of Computer Science has published

Active RFID”. This is the first paper addressing the localization

Sinica, a very prestigious and influential journal published in

research work on the development of

the Canadian Academy of Engineering

Prof Moe Cheung, Head of Civil

Prof Christopher Chao for his

Conditioning Engineers
Refrigerating and Air-
American Society of Heating,

Meeting for Future of Electron Devices” held in Kansai, Japan in

Rectangular Cross-Section” at the 2005 IEEE International

Short-Channel Threshold Voltage Model for FinFET with Non-


awarded the Motorola-IEEE/CPMT Society Graduate Student

Prof Furong Gao of Chemical Engineering, co-

the winner in recognizing the

(ISEG). The Award is presented to

Award of the International Society

Prof Tongxi Yu, Head of Mechanical Engineering, has been

China.

Association for Computational Linguistics.

Translation”. The paper drew much attention at the

“Word Sense Disambiguation vs. Statistical Machine

Prof Dekai Wu of Computer Science has published

Active RFID”. This is the first paper addressing the localization

Sinica, a very prestigious and influential journal published in

research work on the development of

the Canadian Academy of Engineering

Prof Moe Cheung, Head of Civil

Prof Christopher Chao for his

Conditioning Engineers
Refrigerating and Air-
American Society of Heating,

Meeting for Future of Electron Devices” held in Kansai, Japan in

Rectangular Cross-Section” at the 2005 IEEE International

Short-Channel Threshold Voltage Model for FinFET with Non-


awarded the Motorola-IEEE/CPMT Society Graduate Student

Prof Furong Gao of Chemical Engineering, co-

the winner in recognizing the

(ISEG). The Award is presented to

Award of the International Society

Prof Tongxi Yu, Head of Mechanical Engineering, has been

China.

Association for Computational Linguistics.

Translation”. The paper drew much attention at the

“Word Sense Disambiguation vs. Statistical Machine

Prof Dekai Wu of Computer Science has published

Active RFID”. This is the first paper addressing the localization

Sinica, a very prestigious and influential journal published in

research work on the development of

the Canadian Academy of Engineering

Prof Moe Cheung, Head of Civil

Prof Christopher Chao for his

Conditioning Engineers
Refrigerating and Air-
American Society of Heating,
Academic News

HKUST's Engineering Summer Camp for Honors Students

Proves a Hot Ticket

During the Summer Camp, participants have the chance to learn about innovative areas they focus on, and their importance to today's world, while also spending two nights on campus to gain a greater understanding of different engineering disciplines, the innovative model bridge. As in previous years, one of the highlights of the Summer Camp is the design competition, in which teams from the six HKUST engineering departments to solve a design problem. This year's teams had to design an electrochemical cell to drive a model car, create a model bridge, bring 2D images to life, create electronic games on circuit boards, tackle a logistics problem simulation, and produce an airship in their respective departmental heats. After an exciting final on July 24, the overall championship was awarded to the Civil Engineering department for their innovative model bridge.

The annual Summer Camp, organized by the School of Engineering, offers flying Form Five and Form Six students a chance to gain greater knowledge and experience in engineering, and compete for a chance to travel to Tokyo, Japan. The HKUST's Engineering Summer Camp for Honors Students 2005 gave 120 top secondary students three eventful days to remember in July as they explored the challenges and adventures of the world of engineering, gained a taste of university life, and competed for a chance to travel to Tokyo, while also spending two nights on campus. In addition, students are assigned to one of the six HKUST engineering departments in order to learn more about that specific engineering discipline.

In addition, students are assigned to one of the six HKUST engineering departments in order to learn more about that specific engineering discipline. After an exciting final on July 24, the overall championship was awarded to the Civil Engineering department for their innovative model bridge.

As in previous years, one of the highlights of the Summer Camp is the design competition, in which teams from the six HKUST engineering departments to solve a design problem. This year's teams had to design an electrochemical cell to drive a model car, create a model bridge, bring 2D images to life, create electronic games on circuit boards, tackle a logistics problem simulation, and produce an airship in their respective departmental heats.

After an exciting final on July 24, the overall championship was awarded to the Civil Engineering department for their innovative model bridge.

The annual Summer Camp, organized by the School of Engineering, offers flying Form Five and Form Six students a chance to gain greater knowledge and experience in engineering, and compete for a chance to travel to Tokyo, Japan. The HKUST's Engineering Summer Camp for Honors Students 2005 gave 120 top secondary students three eventful days to remember in July as they explored the challenges and adventures of the world of engineering, gained a taste of university life, and competed for a chance to travel to Tokyo, while also spending two nights on campus. In addition, students are assigned to one of the six HKUST engineering departments in order to learn more about that specific engineering discipline.
Hang Seng Design Competition Showcases Creativity

TV Series Demonstrates SENG’s Diversity

An enlightening television series, featuring the School of Engineering (SENG) and its faculty members, students and alumni, was broadcast on ATV Home in July and August, highlighting the great diversity and social value of the School’s research work and degree programs.

Engineering Your Future, jointly produced by RTHK and SENG and aimed at secondary school students and parents, set out to raise awareness of the extensive range of exciting areas that fall within the parameters of a pioneering, internationally recognized engineering school such as SENG. These areas include information technology, environmental engineering, logistics management, electronics, and chemical engineering, among many others.

According to a recent SENG survey, many school students remain unaware of the dynamic nature of engineering today. To help put them in the picture, all six of the School’s departments - Chemical Engineering, Civil Engineering, Mechanical Engineering, Electrical and Electronic Engineering, Industrial Engineering and Logistics Management, and Computer Science - plus the Computer Engineering Program were included in the four, 30-minute programs. Episodes were broadcast weekly in an early evening time-slot.

The series showed the range of areas being covered by research carried out by SENG faculty members and students and brought home the social benefits and added value they bring to the Hong Kong community and beyond. Alumni were also featured, illustrating the interesting range of prospective job opportunities that await SENG graduates and demonstrating the relevance and effectiveness of the knowledge acquired from studying at the School in relation to the world of work.

Learning about the state-of-the-art facilities available at HKUST was another highlight, illustrating the great opportunities for research and up-to-the-minute teaching and learning at the University.

Prior to the series launch, a press conference was held at RTHK, with HKUST President Professor Paul Chu, Dean of Engineering Professor Philip Chan, and SENG professors from the various departments in attendance.

Novel designs, with practical applications, and the ability to present ideas effectively proved the keys to success for the three winning teams in the 2nd Hang Seng Innovative Design Competition.

The contest, organized under the sole sponsorship of Hang Seng Bank, motivates School of Engineering students to put their knowledge and skills to work to create useful engineering applications and products that can enhance the quality of life, while also giving them the opportunity to demonstrate their creativity and practise their presentation skills in front of senior figures in the business world.

Third-year students from the School’s different departments compete against each other to demonstrate the relevance and innovative nature of their final-year projects before a panel of judges comprising representatives from leading companies.

This year’s winners were four students from the Department of Chemical Engineering who took the main award for designing an air pollution monitoring station for secondary schools in Hong Kong. The equipment gives schools a cost-effective way of providing school students with hands-on experience of monitoring environmental conditions in liberal studies lessons (see Pg 8).

The first runner-up award went to a team from the Department of Civil Engineering for its cement-based piezoelectric material, with the second runner-up title won by students in the Department of Industrial Engineering and Logistics Management for their automatic material handling system.

The Hang Seng Innovative Design Competition made its highly successful debut last year attracting a great response from academics, engineering students and industry. It sets out to showcase School of Engineering students’ intellectual excellence to both local and overseas industries and to foster interaction and collaboration between the University and the business sector. Judges at this year’s contest included representatives from Hang Seng Bank Ltd, China Light and Power Ltd, Hutchison Global Communications Ltd and Morgan Stanley Asia Ltd.

Dean of Engineering Prof Philip Chan said that the mix of companies represented on the judging panel indicated that along with engineering and IT career opportunities, engineering students were also sought by companies in other fields, including finance.
Novem Yuen, a second-year student in the Department of Chemical Engineering, and her team have developed a cost-effective air monitoring platform suitable for secondary schools. The platform, which measures different air pollutants - ozone, particulates and nitrogen dioxide - for their final-year project. A commercial air pollution monitoring station with similar features to the School of Engineering have found an innovative way to increase accessibility and life-enhancing nature of their final-year projects to a judging panel made up of senior business community members (see Pg 6).

Competitions like the Hang Seng Innovative Design Competition require an outlay of around HK$600,000, putting it out of reach for most school budgets. The students' system costs around HK$30,000. “I felt this was a very meaningful project to undertake,” Novem said. “With air pollution now a major global problem, school students need to understand more about it. Yet schools can't afford to buy existing air pollution monitoring stations. This means school students can't do experiments or acquire knowledge about air pollution through hands-on experience. If they could, maybe they would become more interested in the subject and kept asking questions to find out more. The teachers appreciated it too,” said Novem, who is interested in the subject and kept asking questions to find out more. The teachers appreciated it too, “I would like to take this opportunity to thank our mentors, Professor Chak Keung Chan and Dr. Arthur Lau. It would not have happened without their guidance,” Novem said.

After developing their monitoring station, the SENG students have interested in the subject and kept asking questions to find out more. The teachers appreciated it too, “I would like to take this opportunity to thank our mentors, Professor Chak Keung Chan and Dr. Arthur Lau. It would not have happened without their guidance,” Novem said.

Creative thinking helped the SENG students keep equipment costs down. One example was a novel but effective vacuum pump, fashioned from an ordinary aquarium pump, tubing and an air-tight plastic box. Total cost? HK$200 instead of HK$20,000 for a professional pump.

Impaired in Pokfulam to discuss his program and further improvements that can be made. It also brought home to him the need for technology to take many advanced features, then it becomes difficult for the visually impaired person living in Europe e-mailed Ying-hung to tell him how, originally, he had been unable to use gmail as the complex design was too difficult for the simple browser used to turn text into sound. Ying-hung's program proved the solution.
School of Engineering students proved a runaway success at ABU Robocon 2005, scooping four of the six prizes, including the competition's top prize, at the Robocon Hong Kong contest and gaining a further award at the grand final in Beijing.

Two HKUST teams, ‘Holy-Flame’ and ‘Sino-Tractor’, participated in the local competition in June, with a total of 25 students from the Departments of Computer Science, Electrical and Electronic Engineering and Mechanical Engineering taking part. ‘Holy-Flame’ gained both the Champion Award and the Best Engineering Award, while ‘Sino-Tractor’ took home Second Runner-Up and Best Artistic Design Award.

The local competition was organized by RTHK and co-organized by the Hong Kong Computer Society and the Hong Kong Institution of Engineers. Other teams competing alongside those from HKUST came from The University of Hong Kong, The Chinese University of Hong Kong, City University of Hong Kong and The Hong Kong Polytechnic University.

This year’s competition was based on a ‘Great Wall of China’ theme. Teams had to design and construct manual and automatic machines that could collaborate in a three-minute contest to climb up the ‘Great Wall beacon tower’ within a set game field and feed fuel balls into five torches and four bonfires.

As the Hong Kong competition winner, ‘Holy-Flame’ was awarded US$1,000 and earned the opportunity to compete in the grand final of ABU Robocon 2005 in Beijing. Praising the team’s win, Prof Li Zexiang, Electrical and Electronic Engineering Department, said: “‘Holy-Flame’ demonstrated both creativity and technical achievement in controlling the movements of the robots.”

At the grand final, held in August, ‘Holy-Flame’ scored another triumph by winning the Second Runner-Up Award. In Beijing, 20 teams from 19 different countries and regions took part in the contest, including the HKUST team.

ABU Robocon was launched in 2002 by the Asia-Pacific Broadcasting Union to create a way to bring together young people from different countries and regions, and to share experience and generate interest in information technology and engineering. The first Robocon Hong Kong Contest took place last year.

HKUST Races to the Top in Robocon 2005

Michael Wong, who has just finished his third-year studies in Computer Engineering, struck gold for the second time this year in the HSBC Young IT Entrepreneur Awards when he and his two team-mates collected the ‘Best of the Best’ regional award in June, beating teams from Malaysia, Thailand and the Philippines.

The business plan writing contest, first held in 2000, sets out to help post-secondary students acquire practical business knowledge through developing an enterprising business plan involving IT. More than 1,700 students in over 660 teams participated in the 2004-2005 contest in the four locations.

Michael’s regional award followed on from his team’s victory in the Hong Kong competition in March. “I was very happy and proud that my team was able to represent Hong Kong and win the competition,” Michael said. “The other three teams were very competitive so we could not expect success. But we prepared well, gave our best and always hoped we would win.”

Michael and his fellow planners from Hong Kong Polytechnic University, devised their winning “Mobile Identity” (M.I.D) plan after realizing the need to cut down on the number of loyalty cards people carry in their wallets these days. Under M.I.D, companies would be provided with software to replace membership or discount cards and help them provide a more efficient customer loyalty program. Retail customers could then use their mobile phone numbers as identification for obtaining shopping and dining discounts.

Contest finalists had to present a full business plan for their innovative idea, covering financial planning, technological architecture and marketing. “I found the hardest part was to devise technology that was low-cost but workable,” Michael said. But his month-long effort proved successful. In the contest, M.I.D was commended for technical feasibility as well as commercial viability.

As part of the prize for winning the Hong Kong contest, Michael and his team members were awarded HK$30,000 for self-development and joined the other Asia team winners on a week-long US study tour in June. During the US visit, they visited top companies such as Microsoft and Boeing.