

## **MEDIA RELEASE**

**\*Embargoed till 31 Aug, 8pm\***

Total: 4 pages including this page

### **I<sup>2</sup>R's researchers win IES Prestigious Engineering Achievement Award 2009 for two projects**

- *I<sup>2</sup>R has won this award for five consecutive years*
- *The second time that two teams from I<sup>2</sup>R have won*

**Singapore, 31 August 2009** – Two teams of engineers from A\*STAR's Institute for Infocomm Research (I<sup>2</sup>R) have won the Institution of Engineers Singapore (IES) Prestigious Engineering Achievement Award 2009 for their research and development work. The first team won it for 'Advancing the Brain Computer Interface (BCI) technologies' while the second team clinched the award for their research in 'Unleashing Underutilized Spectrum for Sustainable Future Communications'.

The BCI team, represented by Dr Guan Cuntai and the second team, led by Dr. Oh Ser Wah, received their IES award from Mr Lim Chuan Poh, Chairman, Agency for Science, Technology and Research (A\*STAR), at the 3<sup>rd</sup> IES Charles Rudd Distinguished Lecture, held at Biopolis on 31 August 2009.

I<sup>2</sup>R's BCI team has substantially advanced the brain-computer interface (BCI) technologies through the research and development of accurate and robust brain state classification algorithms; effective and reliable asynchronous systems; and novel near-infrared spectroscopy methodology. Applications developed include a BCI-based wheelchair control system, a novel BCI-based robotic rehabilitation for stroke patients, and an innovative treatment for ADHD children.

A device that is capable of detecting vacant channels and utilising them, is termed as a white-space device (WSD). In particular, detecting vacant channels in the TV bands, is of great interest, due to the potential availability of spectrum as a result of the planned migration of analog TV to digital TV.

The I<sup>2</sup>R 'white space' team responded to the US Federal Communications Commission's (FCC) call for proof-of-concept tests of TV white space prototypes, and successfully achieved overall best performance in identifying underutilised frequency spectrum during the field trials conducted in the US. The good results also convinced FCC to pass a new rule to allow unlicensed use of frequency spectrum in the UHF bands that could potentially open a new era for wireless communications.

Professor Lye Kin Mun, Deputy Executive Director (Research) said, *"Congratulations to both Dr Guan and Dr Oh and their teams for winning this year's IES Engineering award. Having won this award consecutively for the past five years is testament to the fact that our R&D is recognized by engineering professionals to translate into practical applications for commercialization and enhancing lifestyles. This accolade gives the Institute the motivation and reassurance to continue to forge ahead with new discoveries that are industry relevant and at the same time benefit society."*

The IES Prestigious Engineering Achievement Awards were created to recognize the outstanding achievements of engineers in Singapore. The awards are given to an organisation or persons responsible for an outstanding engineering project. This year, four teams from I<sup>2</sup>R were shortlisted for the final stage of the Prestigious Engineering Achievement Award. There were many entries for their awards, with 20 entries making it past the first round and 14 entries crossing the hurdle in the second round. The final selection was 7 winners, two of whom are teams from I<sup>2</sup>R mentioned above.

**Past winners from I<sup>2</sup>R have included:**

2008 - Dr. Eng How Lung and team for 'Fish Activity Monitoring Systems (FAMS)'

2007 - Dr. Liang Ying Chang and team for 'Cognitive Radio'

2006 - Dr. Eng How Lung and team for 'Drowning Early Warning System (DEWS)' and Mr. Eddie Tan and team for 'High Frequency Radio Frequency Identification (RFID) SmartShelf System'

2005 - Dr. Francois Chin and team for 'Data-Rate Enhancement Design' for wireless personal area networks (WPANs)

The I<sup>2</sup>R team for BCI award consists of Dr Guan Cuntai, Dr. Zhang Haihong, Wang Chuanchu, Dr. Ang Kai Keng, Phua Kok Soon, Chin Zheng Yang, Dr. Lu Shijian, Dr. Tee Keng Peng, Dr. Brahim Hamadi Charef, Lin Rongsheng.

The second I<sup>2</sup>R team that worked on 'white space' consists of Dr Oh Ser Wah, Dr Zeng Yonghong, Mr Zhang Weiqiang, Mr Le Tran Phuoc Cuong (Bruce) and Mr Syed Naveen Altaf Ahmed.

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## **Background**

### **About Institute for Infocomm Research**

The Institute for Infocomm Research (I<sup>2</sup>R - pronounced as i-squared-r) is a member of the Agency for Science, Technology and Research (A\*STAR) family. Established in 2002, our mission is to be the globally preferred source of innovations in 'Interactive Secured Information, Content and Services Anytime Anywhere' through research by passionate people dedicated to Singapore's economic success.

I<sup>2</sup>R performs R&D in information, communications and media (ICM) technologies to develop holistic solutions across the ICM value chain. Our research capabilities are in information technology, wireless and optical communication networks, interactive and digital media; signal processing and computing. We seek to be the infocomm and media value creator that keeps Singapore ahead. Website: [www.i2r.a-star.edu.sg](http://www.i2r.a-star.edu.sg)

### **About Institution of Engineers Singapore (IES)**

IES is a national society of engineers in Singapore and the Prestigious Engineering Achievement Awards are presented annually to recognise the outstanding achievements of engineers.

Website: [www.ies.org.sg](http://www.ies.org.sg)

### **About the Agency for Science, Technology and Research (A\*STAR)**

The Agency for Science, Technology and Research (A\*STAR) is the lead agency for fostering world-class scientific research and talent for a vibrant knowledge-based Singapore. A\*STAR actively nurtures public sector research and development in Biomedical Sciences, and Physical Sciences and Engineering, and supports Singapore's key economic clusters by providing intellectual, human and industrial capital to our partners in industry and the healthcare sector. It oversees 23 research institutes, consortia and centres located in Biopolis and Fusionopolis, and the area in their vicinity, and supports extramural research in the universities, hospitals, research centres, and with other local and international partners.

For more information about A\*STAR, please visit [www.a-star.edu.sg](http://www.a-star.edu.sg).