IEEE HK Section CAS/COM Joint Chapter

Dr. Ray C.C. Cheung
Department of EE
City University of Hong Kong
cccheung@ieee.org

General Information

- IEEE HK Section – 9,000+ members, 30+ chapters
  - Founded in 1971
- IEEE HK Section, CAS/COM Chapter
  - Active Chapter in Hong Kong, Founded in 1988
  - PC Ching (CUHK), PC Chung (PolyU), Paul Cheung (HKU)
- ExCom – HKU, CUHK, HKUST, CityU, PolyU, Industry partners in HK
- Active members – 1500+, April 2017 – 2900 members
- Annual Joint conference with IEEE Xian Section in China, in the past 7 years
- DL Talk 2+ per year
- Active Student Branches in Hong Kong

Committee Members

- Chairman: Dr. Ray C.C. Cheung, EE, City University of Hong Kong

- Vice-Chairman: Ir. Edward Cheung, Industrial Center, PolyU Hong Kong, Former IEEE Section Chair

- Secretary: Dr. Albert Lam, EEE, The University of Hong Kong

- Treasurer: YW Liu, Former HK Police Force, Former IEEE HK Section Chair

ICSPCC 2017

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2017 IEEE International Conference on Signal Processing, Communications and Computing (ICSPCC)

IEEE sponsors:

- Hong Kong Section CAS/COM Joint Chapter
- Xian Section

Signal Processing, Communications and Computing

◆ Conference Details

Dates	22 Oct - 25 Oct 2017	**Call for Papers for Conference Authors**
Location	City hotel Xiamen Xiamen, China	Find details for paper and abstract submission. No call for papers available at this time.
Contact	Chengbing He Youyi Xilu 127 Xi'an China 710072 hcb@nwpu.edu.cn	Full Paper Submission deadline: 01 May 2017 Final submission deadline: 15 Aug 2017 Notification of acceptance date: 15 Jul 2017
Conference #	41233	
Attendance	300	

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International Conference on Signal Processing, Communications and Computing (ICSPCC)

1. Xian,
2. HK, PolyU
3. Kunming
4. GuiLin
5. Ningbo
6. HK, CityU
7. Xiamen

8. Qingdao

2017 IEEE International Conference on Signal Processing, Communications and Computing

October 22-25, Xiamen, FuJian, China

Distinguished Lectures – 2016/17

- Prof. Youngchul Sung, KAIST, South Korea, "User Scheduling and Beamformer Design in Massive MIMO and mmWave Massive MIMO", Aug 3, 2017.

- Prof. Masahiro Fujita, University of Tokyo, Japan, "Template based high-level and logic synthesis with approximate computation for higher and energy efficient computing", Aug 7, 2017.

- Prof. Bah-Hwee Gwee, NTU, Singapore, "Secured Microchip Design to Countermeasure against Physical Hardware Attack", Oct 18, 2017.

- Prof. Jose M. de la Rosa, Universidad de Sevilla, Spain, "Next-Generation Sigma-Delta Converters: Trends and Challenges in a Digital-Driven World", Oct 30, 2017.

CITY UNIVERSITY OF HONG KONG

DEPARTMENT OF ELECTRONIC ENGINEERING & IEEE HK SECTION CAS/COM CHAPTER

Presents a seminar on

Secured Microchip Design to Countermeasure against Physical Hardware Attack

by

Prof Bah-Hwee Gwee

IEEE Distinguished Lecturer

School of EEE, Nanyang Technological University

Date : 18 Oct 2017 (Wednesday)
Time : 10:00am – 11:00 am
Venue : G6302, 6/F, Green Zone, Yeung Kin Man Academic Building, CityU

Abstract

Banking, defence applications and cryptosystems often demand security features, including cryptography, tamper resistance, stealth, and etc., by means of hardware approaches and/or software approaches to prevent data leakages. The hardware physical attacks or commonly known as side channel attacks have been employed to extract the secret keys of the encrypted algorithms implemented in hardware devices by analyzing their physical parameters such as power dissipation, electromagnetic interference and timing information. In this talk, we shall provide an overview of the different cryptography algorithms. We will also present the side channel attacks, in particular the powerful Correlation Power Analysis (CPA) and Correlation Electromagnetic Analysis (CEMA) with a leakage model can be used to reveal the secret keys of the cryptosystems. Several of the current-art attack techniques will be shared in this talk. Two main approaches of countermeasure against CPA and CEMA attacks, i.e. Hiding and Masking, which usually known as hardware approach and algorithmic (DSP) approach will also be discussed in this talk. We will also present several effective countermeasure techniques based on these approaches to design a highly secured microchip.

Biography

Bah-Hwee Gwee is currently an Associate Professor at the School of EEE, Nanyang Technological University, Singapore, where he has joined since 1999. He was the Assistant Chair (Students) of the School of EEE from 2010 – 2014 and currently the Assistant Chair (Outreach). He has worked in a number of projects amounting to more than USD 10mil of research grants. He is the principal investigator of a number of research projects include DSO, DRTech, MoE Tier-2, ASTAR PSF, ASEAN-EU University Network Programme, the Co-PI of DARPA project, NTU-Panasonic and NTU-Linkoping University research collaborations. His research interests include asynchronous circuit, microprocessor, digital signal processor, network-on-chip and class-D amplifier designs. He has 3 US patents granted, 3 provisional US patents and co-founded a start-up in 2005.

He was the Chair of IEEE Circuits and Systems (CAS) Society Singapore Chapter (2005, 2006, 2013 and 2016) and IEEE Distinguished Lecturer 2009-2010 and 2017-2018. He is currently DSP Technical Committee designate chairman of CAS Society and has involved in organizing a number of IEEE conferences including the General Co-chair of DSP 2018. He has also served as Associate Editors of a number of journals, including IEEE Transactions of Circuits and Systems I – Regular Papers (2012-2013), IEEE Transactions of Circuits and Systems II – Brief Express (2010-2011) and Journal of Circuits, Systems and Signal Processing (2007-2012). He was awarded Singapore Defence Technology Prize in 2016 for his team working on the hardware assurance project.
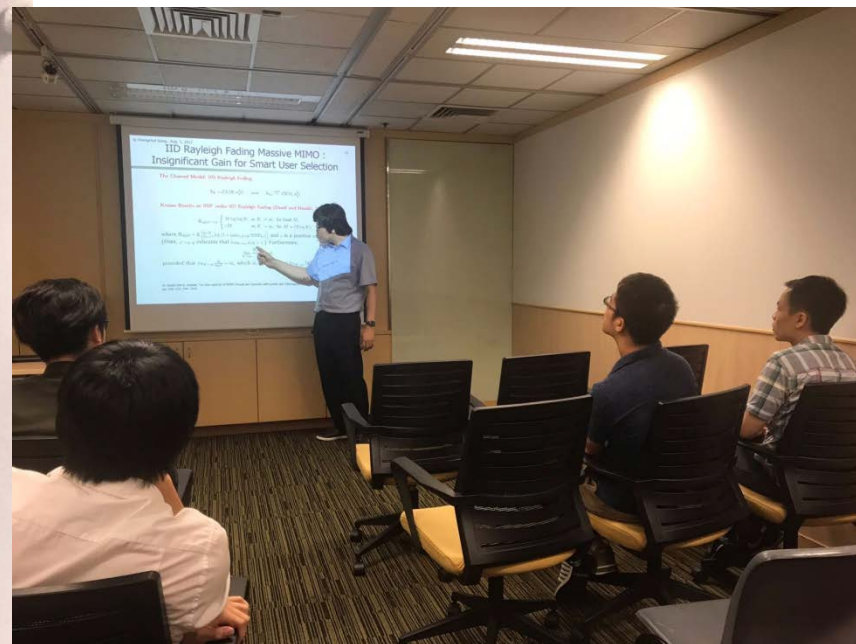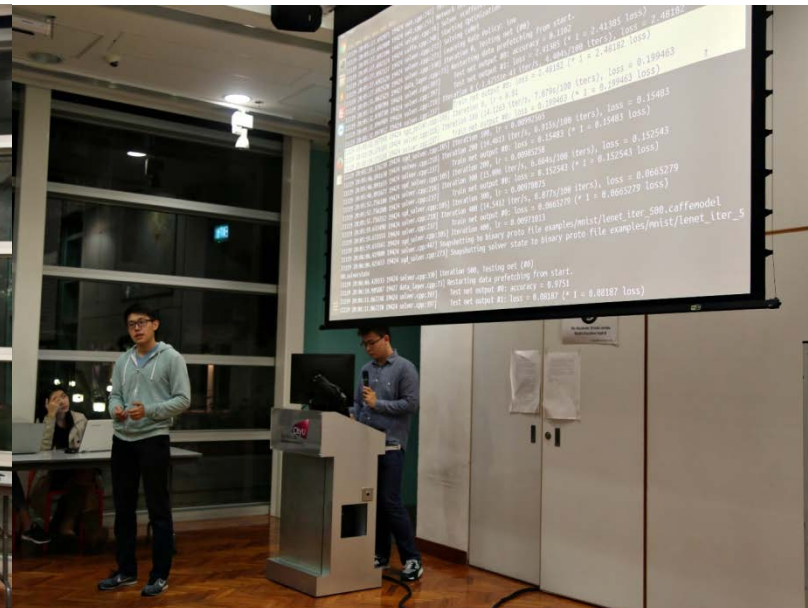
~~~ All are welcome ~~~

DL Talk in HKUST

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4. form@reo.gov.hk
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Understand the mission of the IEEE, career planning and advice

Promoting Coding Education – Supporting organization for student activities

Thank you very much!

- We encourage you to visit us in Hong Kong!