

# 鄭瑞光

## 著作目錄

### 期刊論文

1. Ray-Guang Cheng\*, Zdenek Becvar, Yi-Shin Huang, Giuseppe Bianchi, and Ruki Harwahu (2019, Feb). “Two-Phase Random Access Procedure for LTE-A Networks,” *IEEE Transaction on Wireless Communications*. *IEEE Transaction on Wireless Communications*. (Accepted). 本人為第一作者、通訊作者。
2. Ruki Harwahu, Ray-Guang Cheng\*, Wan-Jung Tsai, Jeng-Kuang Hwang, and Giuseppe Bianchi (2019, Jan). Repetitions v.s. retransmissions: Trade-off in configuring NB-IoT random access channels. *IEEE IoT Journal*. (Accepted). 本人為通訊作者。
3. Ruki Harwahu, Ray-Guang Cheng\*, Chia-Hung Wei, and Riri Fitri Sari, (2018, Feb). Optimization of random access channel in NB-IoT. *IEEE IoT Journal*. MOST 106-2218-E-011-007-MY2. 本人為通訊作者。
4. Ray-Guang Cheng\*, Zdenek Becvar, and Ping-Shun Yang, (2018, Jan). Modeling of distributed queueing-based random access for machine type communications in mobile networks. *IEEE Communications Letters*. MOST 105-2221-E-011-033-MY3. 本人為第一作者、通訊作者。
5. Ruki Harwahu, Jonathan Loo, Ray-Guang Cheng\*, and Yu-Yi Chu (2017, Jun). Smoothing the Drive: Critical Access for Intelligent Transportation Systems. *IEEE Vehicular Technology Magazine*, vol. 12, no 2, pp. 60-68. 本人為通訊作者。
6. Doan Perdana\*, Ray-Guang Cheng, Riri Fitri Sari (2017, Jan). Analytical study of the impact of the mobility node on the multi-channel MAC coordination scheme of the IEEE 1609.4 standard. *KSII Transactions on Internet and Information Systems*.
7. Chia-Hung Wei, Ray-Guang Cheng\*, and You-Shin Lin, (2015, Nov). Analysis of slotted-access-based channel access control protocol for LTE-Advanced networks. *Wireless Personal Communications, Springer*, vol. 85, no. 1, pp. 9-27. MOST 102-2221-E-011-003-MY3. 本人為通訊作者。
8. Xian Wang, Keqin Li\*, Ray-Guang Cheng, Pingzhi Fan, Xianfu Lei, and Rose Qingyang Hu (2015, Nov). Cost analysis of a hybrid movement- and time-based location update scheme in cellular networks. *IEEE Transaction on Vehicular Technology*. (SCI).

9. Ray-Guang Cheng\*, Firas Al-Taei, Jenhui Chen, and Chia-Hung Wei (2015, Oct). A dynamic resource allocation scheme for group paging in LTE-Advanced networks. *IEEE Internet of Things Journal*, vol.2, no.5, pp.427-434. MOST 102-2221-E-011-003-MY3. 本人為第一作者、通訊作者.
10. Ray-Guang Cheng\*, Nien-Sheng Chen, Yu-Feng Chou, and Zdenek Bacvar (2015, Sep). Offloading multiple mobile data contents through opportunistic device-to-device communications. *Wireless Personal Communications, Springer*, vol. 84, no. 3, pp. 1963-1979. MOST 102-2219-E-011-001. 本人為第一作者、通訊作者.
11. Ray-Guang Cheng\*, Dan-Wu Chen, Jen-Hui Chen, and Chia-Hung Wei (2015, Jun). Modeling and analysis of an extended access barring scheme for machine-type communications in LTE networks. *IEEE Transaction on Wireless Communications*, vol. 14, no. 6, pp. 2956-2968. MOST 102-2221-E-011-003-MY3. 本人為第一作者、通訊作者.
12. Chia-Hung Wei, Giuseppe Bianchi, and Ray-Guang Cheng\* (2015, Apr). Modeling and analysis of random-access channels with bursty arrivals in OFDMA wireless networks. *IEEE Transactions on Wireless Communications*, ol. 14, no. 4, pp. 1940-1953. (SCI). MOST 102-2221-E-011-003-MY3. 本人為通訊作者.
13. Ruki Harwahyu, Xian Wang, Riri Fitri Sari, and Ray-Guang Cheng\* (2015, Feb). Analysis of group paging with pre-backoff. *EURASIP Journal on Wireless Communications and Networking*. (Accepted). (SCI). MOST 102-2221-E-011-003-MY3. 本人為通訊作者.
14. Wei-Ling Hsu, Ping-Chen Lin, and Ray-Guang Cheng\* (2015, Feb). A framework design for load-balanced green access networks supporting GSM femtocell. *Smart Science*, ol. 3, no. 1, pp. 40-45. 本人為通訊作者.
15. Ping-Chen Lin, Ray-Guang Cheng\*, and Yu-Ren Chang (2014, Jan). Dynamic flow control algorithm for LTE-Advanced relay networks. *IEEE Transaction on Vehicular Technology*. (SCI). NSC 101-2219-E-011-005. 本人為通訊作者.
16. Fang Lo, Yu-Feng Chou, Ray-Guang Cheng\*, Marek Kalika, Radek Holy, and Jana Kalikova (2013, Nov). Generalized radio resource management for overlapping MBS zones. *Advances in Electrical and Electronic Engineering*, vol. 11, no. 5. NSC 100-2219-E-011-001. 本人為通訊作者.
17. Chia-Hung Wei, Ray-Guang Cheng\*, and Shaio-Li Tsao (2013, Sep). Performance analysis of group paging for machine-type communications in LTE networks. *IEEE Transaction on Vehicular Technology*, vol. 66, no. 7, pp. 3371-3382. (SCI). NSC 101-2219-E-011-005. 本人為通訊作者.
18. Yu-Feng Chou, Shin-Heng Huang, and Ray-Guang Cheng\* (2013, Jul).

Modeling information dissemination in generalized social networks. *IEEE Communications Letters*, vol. 17, no. 7, pp. 1356-1359. (SCI). NSC 101-2219-E-011-005. 本人為通訊作者.

19. Chia-Hung Wei, Ping-Chen Lin, and Ray-Guang Cheng\*, (2013, Jan). Comment on “An efficient random access scheme for OFDMA systems with implicit message transmission. *IEEE Transaction on Wireless Communications*, vol. 12, no. 1, pp. 414-415. (SCI). NSC 100-2219-E-011-001. 本人為通訊作者.

#### 研討會論文

1. Chin-Ya Huang\*, Chung-Ying Ho, Navid Nikaein, and Ray-Guang Cheng (2018, Nov). Design and prototype a virtualized 5G infrastructure supporting network slicing. IEEE DSP Conference, ShangHai.
2. Bing-Zhi Hsieh, Yu-Hsiang Chao, Ray-Guang Cheng\*, and Navid Nikaein (2018, Apr). Design of a UE-specific uplink scheduler for narrowband Internet-of-Things (NB-IoT) systems. The 3rd International Conference on Intelligent Green Building and Smart Grid (IGBSG 2018), YiLan, Taiwan. 本人為通訊作者.
3. Ray-Guang Cheng\*, Raymond Knopp, Chung-Yin Ho, Kai-Hsiang Hsu, Tian-Jen Liu, Wei-Tai Chen, Bing-Zhi Hsieh, Matthieu Kanj, Francois Taburet, and Navid Nikaein (2018, Apr). Demo Abstract - Design and Implementation of an Open Source NB-IoT eNB. IEEE INFOCOM, Hawaii. 本人為第一作者 通訊作者.
4. Ruki Harwahyu\*, Che-Yuan Chiang, and Ray-Guang Cheng (2018, Apr). Analysis of backoff algorithms for random access channels in OFDMA systems. The 3rd International Conference on Intelligent Green Building and Smart Grid (IGBSG 2018) , YiLan, Taiwan.
5. Ruki Harwahyu, Ray-Guang Cheng\*, Chia-Hung Wei (2017, Sep). Performance analysis of the random access channel in NB-IoT. IEEE 86th Vehicular Technology Conference. 本人為通訊作者.
6. David Sijabat, Ruki Harwahyu, Ray-Guang Cheng\* (2017, Jul). Energy-efficiency of RACH-based small data transmission scheme in LTE networks. 40th International Conference on Telecommunications and Signal Processing (TSP). 本人為通訊作者.
7. Chu-Chun Huang, Ray-Guang Cheng\*, and Ruki Harwahyu (2016, Nov). Impact of backoff algorithm on Small Data Transmission Scheme in a Generalized Multichannel Slotted Aloha System. International Symposium on Electronics and Smart Devices . 本人為通訊作者.

8. Yu-Wei Lin, Ray-Guang Cheng\*, Ruki Harwahu (2016, Oct). Study of WiFi and LTE coexistence in the unlicensed Spectrum. International Conference on Electrical Engineering and Computer Science (ICEECS). 本人為通訊作者.
9. Chu-Chun Huang, Ray-Guang Cheng\*, and Ruki Harwahu, (2016, Sep). Performance evaluating of small data transmissions in generalized multichannel slotted Aloha systems. The 8th International High Speed Intelligent Communication Forum and 2016 International Conference on Communication Problem-Solving (ICCP). 本人為通訊作者.
10. Yu-Yi Chu, Ruki Harwahu, Ray-Guang Cheng\*, and Chia-Hung Wei, (2016, Sep). Study of generalized resource allocation scheme for multichannel slotted ALOHA systems. IEEE PIMRC 2015, Hong Kong, China. 本人為通訊作者.
11. Shiann-Tsong Sheu\*, Ray-Guang Cheng, Jie-Yu Wang, Kai-Hua Kuo, and Ruki Harwahu (2016, Jun). Performance analysis of the window-based HARQ time bundling scheme. The 2nd International Conference on Intelligent Green Building and Smart Grid (IGBSG 2016), Prague, Czech Republic.
12. Heng-Hao Pu, Chung-Ju Chang\*, and Ray-Guang Cheng (2015, Aug). The SA-based group handoff scheme for heterogeneous wireless networks in M2M communications. IWCMC 2015 M2M and IoT Workshop, Dubrovnik, Croatia.
13. Ping-Chen Lin, Ray-Guang Cheng\*, Xian Wang, and Putu Ayu Rhamani Suryadhi (2015, Aug). PFCS: Pre-buffering- aware flow control scheme for LTE-Advanced relay networks. 11th EAI International Conference on Heterogeneous Networking for Quality, Reliability, Security and Robustness (QSHINE 2016). 本人為通訊作者.
14. Shin-Ming Cheng\*, Wei-Ru Huang, Ray-Guang Cheng, and Chai-Hien Gan (2015, Aug). Experimental emergency communication systems using USRP and GNU-radio platform. 11th EAI International Conference on Heterogeneous Networking for Quality, Reliability, Security and Robustness.
15. Jenhui Chen\*, Yun-Ting Lin, and Ray-Guang Cheng (2015, Jun). A delayed random access speed-up scheme for group paging in machine-type communications. IEEE ICC 2015 .
16. Jung-Shiuan Hunag, Ruki Harwahu, Ray-Guang Cheng\* (2015, May). Study of low cost mobile phone tracking system. The 4th International Symposium on Next-Generation Electronics (IEEE ISNE 2015). 本人為通訊作者.
17. Bo-Li Chang, Ray-Guang Cheng, Yu-Feng Chou, Yu-Yi Chu, and Chia-Hung Wei (2014, Aug). Service architecture selection for multimedia broadcast/multicast services. The 2nd International Conference on Multimedia and Human-Computer Interaction (MHCI'14), Pargue, Czech Republic. 本人為通訊作者.

18. Shiao-Li Tsao, Chen-Wei Wang, Yun-Ciou Lin, and Ray-Guang Cheng (2014, Apr). A dynamic load-balancing scheme for heterogeneous wireless networks. IEEE Wireless Communications and Networking Conference (WCNC), Istanbul, Turkey.
19. Ray-Guang Cheng, Chia-Liang Lian, Ping-Chen Lin, Po-Yao Tsai, Tse-Han Liu, Hsien-Cheng Chou, Shiao-Li Tsao, and Shanchieh Yang, (2013, Oct). Design and implementation of a Skype protocol analyzer. First IEEE Conference on Communications and Network Security (IEEE CNS). 本人為第一作者、通訊作者。
20. Fang Lo, Yu-Feng Chou, Ray-Guang Cheng, Marek Kalika, Radek Holy, and Jana Kalikova (2013, Sep). Generalized radio resource management for overlapping MBS zones. Knowledge in Telecommunication Technologies and Optics (KTTO). 本人為通訊作者。
21. Ping-Chen Lin and Ray-Guang Cheng (2013, Sep). Dynamic two-threshold flow control scheme for 3GPP LTE-A relay networks. The 24th Annual IEEE International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC). 本人為通訊作者。
22. Ruki Harwahu, Ray-Guang Cheng, and Riri Fitri Sari (2013, Sep). Consecutive group paging for LTE networks supporting machine-type communications services. The 24th Annual IEEE International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC). 本人為通訊作者。
23. Nien-Sheng Chen, Yu-Feng Chou, Ray-Guang Cheng, and Shiao-Li Tsao (2013, Jul). Multiple contents offloading through opportunistic communications. The 12th International Conference on Telecommunications (ConTEL). 本人為通訊作者。
24. Ray-Guang Cheng, Chia-Hung Wei, and Shiao-Li Tsao (2013, Jul). Iterative contending-user estimation method for OFDMA wireless networks with bursty arrivals. The Eighteenth IEEE Symposium on Computers and Communications (ISCC). 本人為第一作者、通訊作者。



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## IEEE TWC - Decision on Manuscript ID Paper-TW-Feb-18-0145.R2

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18-Feb-2019

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The authors added a subsection to analyze the dynamic allocation of optimum number of D-PRACH. The presentation has been considerably improved too. However, there is still a large room to improve the presentation and reduce the grammar mistakes. In my opinion, the novelty of the paper is limited for publication in IEEE Trans on Wireless Commun.

Reviewer: 2

Comments to the Corresponding Author

The authors have addressed all the raised comments, and thus I can recommend now this paper for publication in the journal.

Reviewer: 3

Comments to the Corresponding Author

The revised manuscript has successfully addressed all the reviewer comments. I believe that the paper can be now accepted with its current version.



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## Accepted Manuscript IoT-5539-2018.R1 - Final files due in 2 weeks

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25-Dec-2018

Paper: IoT-5539-2018.R1 - Repetitions v.s. Retransmissions: Tradeoff in Configuring NB-IoT Random Access Channels

Authors: Prof. Ray-Guang Cheng, Harwahu, Ruki; Cheng, Ray-Guang; Tsai, Wan-Jung; Hwang, Jeng-Kuang; Bianchi, Giuseppe

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