



Makoto KOBAYASHI

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Makoto Kobayashi received the M.E. degree from Osaka University, Japan, in 2016. He is currently pursuing the Ph.D. degree with the Graduate School of Information Science and Technology, Osaka University, Japan, and has been a Research Fellow (DC2) of the Japan Society for the Promotion of Science, since 2017. His research interests include wireless networks and communications, especially MAC protocol to support diversified requirements and services. He is a student member of IEEE, IEEE ComSoc, IPSJ, and IEICE.

Contact Information

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Education

- ◆ **Ph.D. Student** in Department of Information Networking, Graduate School of Information Science and Technology, Osaka University, April 2016 - present
- ◆ **M.E.** in Information Science, Department of Information Networking, Graduate School of Information Science and Technology, Osaka University, March 2016
- ◆ Quitted (to Enter Graduate School) Department of Information and Communications Technology, Division of Electronic and Information Engineering, School of Engineering, Osaka University, (Only one student permitted to skip in approx. 160 division students), March 2014
- ◆ Graduated from Aiko (Amor et Lumen) High School in Ehime pref., March 2011

Professional Experience

- ◆ **Research Fellow (DC2)** of Japan Society for the Promotion of Science (JSPS), April 2017 – March 2019

Research Interests

- ◆ Wireless Networks
- ◆ Network MIMO
- ◆ Full-duplex Communication

Honors & Awards

- ◆ JSPS Research Fellowship (DC2), 2017 – 2019
 - ◆ IEICE Kansai Section Distinguished Service Award, JPY5000, 2017
 - ◆ Student Travel Grants for IEEE Global Communications Conference, \$800, 2015
 - ◆ Best Presentation Award in IPSJ DICOMO symposium, 2015
 - ◆ Best Presentation Award in IPSJ SIG-MBL conference, 2015
- * IEICE: Institute of Electronics, Information and Communication Engineers (in Japan)
* IPSJ: Information Processing Society of Japan

Educational Activities

- ◆ Research Assistant in Graduate School of Information Science and Technology, Osaka University, August 2016 – February 2017
- ◆ Teaching Assistant, Information and Coding Theory, Osaka University, April 2016 – September 2016

Visiting Position

- ◆ Visiting Scholar, Electrical Engineering and Computer Science, Henry Samueli School of Engineering, University of California Irvine, CA, USA, August 2017 – February 2018
- ◆ Visiting Student, Faculty of Engineering, Victoria University of Wellington, New Zealand, September – October 2014

Publications

- ◆ Peer-reviewed Journal and Transaction Papers:

[1] **Makoto Kobayashi**, Ryo Murakami, Kazuhiro Kizaki, Shunsuke Saruwatari, Takashi Watanabe, "Wireless Full-duplex Medium Access Control for Enhancing Energy Efficiency," IEEE Transactions on Green Communications and Networking (to

be appeared)

[2] Md. Abdul Alim, **Makoto Kobayashi**, Shunsuke Saruwatari, Takashi Watanabe, "In-band Full-duplex Medium Access Control Design for Heterogeneous Wireless LAN," *EURASIP Journal on Wireless Communications and Networking*, 2017, 83, pp.1–22, May 2017.

◆ Peer-reviewed Conference Papers:

[1] Takumi Uekumasu, **Makoto Kobayashi**, Shunsuke Saruwatari, Takashi Watanabe, "An Access Strategy for Downlink and Uplink Decoupling in Multi-channel Wireless Networks," in the Proceedings of The Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (IEEE PIMRC'17), pp.1–7, Montreal, Canada, Oct. 2017.

[2] Ryo Murakami, **Makoto Kobayashi**, Shunsuke Saruwatari, Takashi Watanabe, "An Energy Efficient MAC for Wireless Full Duplex Networks," in the Proceedings of IEEE Global Communications Conference the first International Workshop on Full Duplex Wireless Communications (IEEE GLOBECOM Wkshp'16), pp.1–6, Washington D.C., USA, Dec. 2016.

[3] **Makoto Kobayashi**, Md. Abdul Alim, Shunsuke Saruwatari, Takashi Watanabe, "A Basic Analysis of Medium Access Control for Full-duplex WLAN," in the Proceedings of Ninth International Conference on Mobile Computing and Ubiquitous Networking (ICMU'16), pp.1–6, Kaiserslautern, Germany, Oct. 2016.

[4] Md. Abdul Alim, **Makoto Kobayashi**, Takashi Watanabe, "Full Duplex Medium Access Control Design for Heterogeneous WLAN," in the Proceedings of European Wireless 2016 (EW'16), pp.203–209, Oulu, Finland, May 2016.

[5] **Makoto Kobayashi**, Bryan Ng, Winston Seah, Shunsuke Saruwatari and Takashi Watanabe, "TARC: Throughput-aware Random Scalable Clustering for Network MIMO," in *Proceedings of IEEE Global Communications Conference 2015 (IEEE GLOBECOM '15)*, pp. 1-6, San Diego, CA, USA, Dec. 2015.

◆ Non-peer-reviewed Conference Papers:

18 papers (written in Japanese) are published in domestic conferences.

Professional Activities

◆ Memberships

- IPSJ Student Member, 2013 – present.
- IEICE Student Member, 2015 – present.
- IEEE, IEEE ComSoc Student Member, 2015 – present.
- ◆ IEICE Kansai Section Student Branch Manager, April 2015 – March 2017
- ◆ Technical Reviewer
 - IEEE Communications Letters, 2017
 - European Wireless, 2016

Radio Operation Qualifications in Japan

- ◆ First-Class Technical Radio Operator for On-the-Ground Services (第一級陸上無線技術士), 2016 – present
Ministry of Internal Affairs and Communications, Japan
All ground radio stations including television broadcasting stations, MF broadcasting stations and fixed stations can be operated in Japan.