
Bing Luo

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PROFESSIONAL EXPERIENCES

International Post-Doctoral Research Fellow

Oct. 2019 – Now

- Shenzhen Institute of Artificial Intelligence and Robotics for Society (AIRS), The Chinese University of Hong Kong, Shenzhen
Working with: Prof. Jianwei Huang (*Fellow, IEEE*)
- Yale Institute for Network Science (YINS), Yale University
Working with: Prof. Leandros Tassiulas (*Fellow, IEEE*)

Project Manager

Apr. 2012 - Jan. 2016

China Mobile Communication Corporation, Headquarter
Beijing, China

- China Mobile LTE quality of service management innovation project
- China Mobile LTE wireless quality management innovation project

EDUCATION

The University of Melbourne

Melbourne, VIC

Australia

Ph.D., Electrical & Electronics Engineering

May.2016 – Sep. 2019

Beijing Univ. of Posts and Telecommunications

Beijing, China

- M.E.,** Communication and Information Systems
Mar. 2012
Sep. 2009 –
- B.E.,** Communication Engineering
2005 – Jul. 2009
Sep.

RESEARCH VISITING EXPERIENCES

IBM T. J. Watson Research Center

Yorktown Heights, NY, USA

Department of Distributed AI

Feb. 2019

Yale University

New Haven, CT, US

Yale Institute for Network Science (YINS)

Sep. 2018 – Jan.

2019

Friedrich-Alexander-University

Erlangen, Germany

Institute for Digital Communications

Apr.

2018 – Jun. 2018

Aalto University

Helsinki, Finland

Department of Communications and Networking

Sep. 2011 –

Oct. 2011

PUBLICATIONS

• Journal Papers

1. **B. Luo**, PL. Yeoh, and B. Krongold, “Optimal Co-Phasing Power Allocation and Capacity of Coordinated OFDM Transmission with Total and Individual Power Constraints,” *IEEE Transactions on Communications*, vol. 67, no. 10, pp. 7103–7113, Oct. 2019.
2. **B. Luo**, X. Li, S. Wang, J. Huang, L. Tassiulas, “Cost-Effective Federated Learning in Mobile Edge Networks,” submitted to *IEEE Journal on Selective Areas in Communications (JSAC)*, 2021.
3. **B. Luo**, PL. Yeoh, R. Schober and B. Krongold, “Distributed Energy Beamforming for Wireless Power Transfer over Frequency-Selective Fading Channels,” submitted to *IEEE Transactions on Green Communications and Networking*, 2020.
4. **B. Luo**, PL. Yeoh, and B. Krongold, “Optimal Transmit Strategy and Power Allocation for OFDM-DAS with Total and Individual Power Constraints,” submitted to *IEEE Transactions on Green Communications and Networking*, 2020.
5. **B. Luo**, Q. Cui, and X. Tao, “Optimal Joint Water-Filling for Coordinated Transmission over Frequency-Selective Fading Channels,” *IEEE Communication Letters*, vol.15, no.2, pp.190–192, Feb. 2011.
6. **B. Luo**, Q. Cui, X. Tao, and P. Zhang, “Closed Form Solutions of Joint Water-Filling for Coordinated Transmission,” *IEEE Transactions on Communications*, vol. 93–B, no. 12, pp. 3461–3468, Jan. 2010.
7. Q. Cui, **B. Luo**, X. Huang and A.A. Dowhuszko, “Closed Form Solution for Minimizing Power Consumption

in Coordinated Transmissions,” *EURASIP Journal on Wireless Communications and Networking*: vol. 2012, no. 122, Mar. 2012.

8. Q. Cui, X. Huang, **B. Luo** and X. Tao, “Capacity Analysis and Optimal Power Allocation for Coordinated MIMO–OFDM Systems,” *Science China Information Sciences*, vol. 55, no. 6, pp.1372–1378, Jun. 2012.

- **Conference Papers**

1. **B. Luo**, X. Li, S. Wang, J. Huang, L. Tassiulas, “Cost-Effective Federated Learning Design,” accepted in *IEEE International Conference on Computer Communications (INFOCOM)*, 2021.
2. **B. Luo**, X. Li, S. Wang, J. Huang, L. Tassiulas, “Adaptive Sampling for Heterogeneous Federated Learning,” accepted in *IEEE International Conference on Computer Communications (INFOCOM)*, 2021.
3. **B. Luo**, PL. Yeoh, R. Schober and B. Krongold, “Optimal Frequency-Selective Energy Beamforming with Joint Total and Individual Power Constraints”, *IEEE Global Communications Conference (GLOBECOM)*, Waikoloa, HI, USA, December, 2019.
4. **B. Luo**, PL. Yeoh and B. Krongold, “Optimal Power Allocation for DAS-OFDM under Joint Total and Individual Power Constraints,” *IEEE Global Communications Conference (GLOBECOM)*, Waikoloa, HI, USA, December, 2019.
5. **B. Luo**, PL. Yeoh, R. Schober and B. Krongold, “Optimal Energy Beamforming for Distributed Wireless Power Transfer over Frequency-Selective Channels,” *IEEE International Conference on Communications (ICC)*, Shanghai, China, May 2019.
6. **B. Luo**, PL. Yeoh, and B. Krongold, “Optimal Co-phasing Power Allocation for Coordinated OFDM Transmission,” *IEEE International Conference on Communications (ICC)*, Paris, France, Jun. 2017.
7. **B. Luo**, Q. Cui, X. Tao, and A.A. Dowhuszko, “On the Optimal Power Allocation for Coordinated Wireless Backhaul in OFDM Based Relay Systems,” *IEEE International Conference on Communications (ICC)*, Budapest, Hungary, Jun. 2013.
8. **B. Luo**, Q. Cui, and X. Tao, “Constant-Power Joint Water-filling for Coordinated Transmission,” *IEEE Global Communications Conference (GLOBECOM)*, Houston, US, Dec. 2011.
9. **B. Luo**, Q. Cui, H. Wang, and X. Tao, “Optimal Joint Water-filling for OFDM Systems with Multiple Cooperative Power Sources,” *IEEE Global Communications Conference (GLOBECOM)*, Miami, US, Dec. 2010.
10. Q. Cui, **B. Luo**, and X. Tao, “Joint Power Allocation Solutions for Power Consumption Minimization in Coordinated Transmission System,” *IEEE Global Communications Conference (GLOBECOM) Workshop on Multi-Cell Cooperation*, Houston, US, Dec. 2011.

PATENTS

- **US Patent:** “Method for Allocating Downlink Transmission Power of Coordinated Transmission Devices in Coordinated Multi-point Transmission System”. No. US 8,811,147, Aug., 2014

Inventors: Q. Cui, P. Zhang, X. Tao, **B. Luo**, A.A. Dowhuszko, and J. Hämäläinen.

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- **Chinese Patent:** “Method and Apparatus for Distributed Power Control in LTE–A system”.
No. CN103906200A, Jul., 2014
Inventors: **B. Luo**, J. Sun, B. Tan, W. Jin and C. He

Project Grants

Federated Learning based Multi-Robot Collaboration

Apr. 2021-Mar 2022

Principal

Investigator

Grant: 500,000RMB

SELECTED HONORS & AWARDS

- International Postdoc Fellowship, AIRS
2019–2021
- Melbourne Research Scholarship, Melbourne University
2019 2016–
- Kenneth Myers Memorial Scholarship, Melbourne University
2018
- Robert Bage Memorial Scholarship, Melbourne University
2017
- Technical Innovation Expert Award, China Mobile
2014
- Advanced LTE Technology Professionals Award, China Mobile
2013
- 1st Outstanding Master Thesis, BUPT
2012
- Wu Tong Communications. Co., Ltd, Scholarship
2012
- National First Grade Scholarship
2011
- Meritorious Winner 24th US Mathematical Contest in Modeling
2008

PROFESSIONAL ACTIVITIES

Memberships

- IEEE member & IEEE Communications Society member

Technical Reviewers

- IEEE Transactions on Communications (TCOM)
- IEEE Transactions on Wireless Communications (TWC)
- IEEE Wireless Communication Letters
- IEEE Communication Letters
- IEEE Global Communications Conference (GLOBECOM)
- IEEE International Conference on Communications (ICC)

REFERENCES

Prof. Jianwei Huang

Associate Dean, School of Science and Engineering, The Chinese University of Hong Kong, Shenzhen
Room 608, Teaching Building C, 2001 Longxiang Road, Longgang District, Shenzhen, China
Email: jianweihuang@cuhk.edu.cn

Prof. Leandros Tassiulas

Chair, Electrical Engineering, Yale Institute for Network Science (YINS), Yale University
Room 336, 17 Hillhouse Avenue, New Haven, CT 06511, USA
Email: leandros.tassiulas@yale.edu

Assoc. Prof. Brain Krongold

Department of Electrical & Electronic Engineering, University of Melbourne
Level 05 Room: 5.12, Electrical and Electronic Engineering, Parkville, VIC 3000, Australia
Email: bsk@unimelb.edu.au

Prof. Robert Schober

Department of Electrical & Electronic Engineering, Friedrich–Alexander–University (FAU)
Room 05.034, Cauerstraße 7, 91058 Erlangen, Germany
Email: leandros.tassiulas@yale.edu

Sun Jinxia

Vice General Manager of Department of Networking, China Mobile

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Prof. Xiaofeng Tao

Dean, School of Information and Communications Engineering, BUPT

No. 10, Xi Tu Cheng Road, Beijing, 100876, China

Email: taoxf@bupt.edu.cn

Prof. Jyri Hämäläinen

Dean, Department of Communication and Networking, Aalto University

P.O. Box 13000, Helsinki, FI-00076, Finland

Email: jyri.hamalainen@aalto.fi

Prof. John M. Cioffi

Department of Electrical Engineering, Stanford University

363 Packard Electrical Engineering Bldg. Stanford, CA94305-9515, US

Email: cioffi@stanford.edu