

Dingjia Lin

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EDUCATION

- 03/2021-Present** **University of Manchester, UK** **Supervisor: Prof. [Zhiguo Ding](#) (FIEEE)**
Department of Electrical and Electronic Engineering
Doctor of Philosophy (Expected)
- 09/2019-12/2020** **University of Southampton, UK**
School of Electronics and Computer Science
MSc Mobile Communication and Smart Networking
Master of Science
- 09/2017-12/2018** **University of Sheffield, UK**
Department of Electronic and Electrical Engineering
MSc Wireless Communication System
Master of Science
- 09/2013-06/2017** **Chongqing University of Posts and Telecommunications, China**
College of Communication and Information Engineering
Communication Engineering
Bachelor of Engineering

RESEARCH INTERESTS

Non-orthogonal multiple access, Backscatter Communication, Convex optimization, Matching Theory, Non-convex optimization, Cognitive radio, Fluid Antenna System

PUBLICATION LIST

- **[D. Lin](#)**, K. Wang, T. Wang and Z. Ding, "Uplink Data Rate Maximization in Multi-Cell BackCom NOMA Systems," in *IEEE Open Journal of the Communications Society*, vol. 5, pp. 526-539, 2024, doi: [10.1109/OJCOMS.2023.3349277](#).
Key Words: BackCom, NOMA, beamforming, convex optimization, SDR
- **[D. Lin](#)**, T. Wang, K. Wang and Z. Ding, "Energy-Efficiency Maximization in Backscatter Communication Based Non-Orthogonal Multiple Access System: Dinkelbach and Successive Convex Approximation Approaches," in *IET Signal Processing*, 2024, 4107801, 12 pages, doi: [10.1049/2024/4107801](#).
Key Words: Backscatter communication (BackCom), Non-orthogonal multiple access (NOMA), Sum-capacity approach, QR decomposition, Dinkelbach algorithm, Penalty semidefinite relaxation (SDR), Successive convex approximation (SCA)
- **[D. Lin](#)**, K. Cumanan and Z. Ding, "Beamforming Design for BackCom Assisted NOMA Systems," in *IEEE Wireless Communications Letters*, vol. 12, no. 9, pp. 1494-1498, Sept. 2023, doi: [10.1109/LWC.2023.3279668](#).
Key Words: Backscatter communication (BackCom), hybrid successive interference cancellation (SIC), non-orthogonal multiple access (NOMA), resource allocation, user association
- **[D. Lin](#)**, S. Al-Basit, K. Wang and Z. Ding, "Uplink Data Rate Maximization with Channel Uncertainties in BackCom NOMA System," *2024 International Symposium on Wireless Communication Systems (ISWCS)*, Rio de Janeiro, Brazil, 2024, pp. 1-6, doi: [10.1109/ISWCS61526.2024.10639114](#).
Key Words: Backscatter communication (BackCom), non-orthogonal multiple access (NOMA), imperfect channel state information (CSI), S-procedure, semidefinite relaxation (SDR)

- **D. Lin**, S. Al-Basit, K. Wang and Z. Ding, "EE Maximization with Imperfect CSI at Transmitter in BackCom NOMA System," in *IEEE Transactions on Vehicular Technology*, submitted.
Key Words: non-orthogonal multiple access (NOMA), backscatter communication (BackCom), imperfect channel state information at transmitter (CSIT), S-procedure, Bernstein-type inequality (BTI), semidefinite relaxation (SDR), sequential rank-one constrained relaxation (SROCR).
- **D. Lin**, K. Wang, T. Wang and Z. Ding, "Power Minimization in FAS Assisted NOMA Networks", in preparation.

ADDITIONAL SKILLS AND ACHIEVEMENTS

IT SKILLS

MS Office, Python, MATLAB, Photoshop, Lightroom, LaTeX.

LANGUAGES

Chinese: Native

English: Fluent

INTERESTS

Photography; Reading; Astronomical Observation; Writing