Cuneyd Ozturk

Department of Electrical and Computer Engineering
Northwestern University, Evanston, IL 60208.

e-mail: cuneyd.ozturk@northwestern.edu

Research Interests

Satellite communication networks, coexistence between passive and active systems, statistical signal processing, reconfigurable intelligent surfaces and detection and estimation theory.

Current Employment

Northwestern University, Evanston, IL, United States

Postdoctoral Scholar, Department of Electrical Engineering and Computer Science.

Education

Bilkent University, Ankara, Turkey

Ph.D. in Electrical Engineering, CGPA: 4.00 / 4.00 — Jan. 2018 – June 2022.

- Advisor: Prof. Sinan Gezici
- Thesis Title: Estimation Theoretic Analyses of Location Secrecy and RIS-aided Localization Under Hardware Impairments

B.S. in Electrical Engineering, CGPA: 3.91 / 4.00 — Sep. 2011 – June 2016

Minor in Mathematics, CGPA: 4.00 / 4.00 — Sep. 2011 – June 2016

University of California Los Angeles (UCLA), Los Angeles, CA

M.S. in Electrical Engineering, CGPA: 3.82 / 4.00 — Sep. 2016 – Dec. 2017

- Advisor: Prof. Suhas Diggavi

Awards and Honors

- Best Oral Presentation Award, Graduate Research Conference, Bilkent University, 2022.
- TUBITAK[1] Scholarship for PhD studies based on ALES (National GRE) and GPA scores.
- UCLA Departmental Fellowship (2016-2017): Full tuition waiver & stipend during the first year of PhD program.
- Bilkent University Academic Excellence Award, 2016.
- Bilkent University High Honor Student during B.S. Studies (all semesters), 2011-2016.
- Bilkent University Full Scholarship for the B.S. degree in the EEE Department, 2011-2016.
- Received the **8th rank** among 200000 university graduates in ALES (National GRE), 2015.
- First Prize in TUBITAK High School Mathematical Project Contest, 2011.
- Bronze Medal in International Silk Road Mathematical Olympiad, 2010.

Journal Papers

1. **C. Ozturk**, F. Lind, D. Guo, R. Berry and M. Honig, "Pushing spectrum boundaries: coexistence with passive sensing, (Working Paper).
2. **C. Ozturk**, D. Guo, R. Berry and M. Honig, "Downlink spectral efficiency of low earth orbit satellite mega-constellations," **IEEE Journal on Selected Areas in Communications**," 2023 (Under Review).
3. **C. Ozturk**, M. F. Keskin, V. Sciancalepore, H. Wymeersch and S. Gezici, "RIS-aided localization under pixel failures," **IEEE Transactions on Wireless Communications**, 2023 (Under Review).
4. **C. Ozturk**, M. F. Keskin, H. Wymeersch and S. Gezici, "RIS-aided near-field localization under phase-dependent amplitude variations," **IEEE Transactions on Wireless Communications**, vol. 22, no. 8, pp. 5550-5566, Aug. 2023.
5. E.M. Abadi, C. Goken, **C. Ozturk**, and S. Gezici, "Optimal power allocation and optimal linear encoding for parameter estimation in the presence of a smart eavesdropper," **IEEE Transactions on Signal Processing**, vol. 70, pp. 4093-4108, 2022.

[1] Turkish equivalent of NSF.

6. **C. Ozturk**, C. Goken and S. Gezici, "Parameter encoding for ECRB minimization in the presence of jamming," **IEEE Signal Processing Letters**, vol. 29, pp. 419-423, 2022.

7. **C. Ozturk**, and S. Gezici, "Eavesdropper and jammer selection in wireless source localization networks," **IEEE Transactions on Signal Processing**, vol. 69, pp. 4341-4356, July 2021.

8. **C. Ozturk**, H. M. Ozaktas, S. Gezici, and A. Koc "Optimal fractional Fourier filtering for graph signals," **IEEE Transactions on Signal Processing**, vol. 69, pp. 2902-2912, May 2021.

9. B. Dulek, **C. Ozturk**, and S. Gezici, "Optimal decision rules for simple hypothesis testing under general criterion involving error probabilities," **IEEE Signal Processing Letters**, vol. 27, pp. 261-265, Jan. 2020.

10. M. F. Keskin, **C. Ozturk**, S. Bayram, and S. Gezici, "Jamming strategies in wireless source localization systems," **IEEE Wireless Communication Letters**, vol. 8, no. 4, pp. 1141-1145, Aug. 2019.

11. **C. Ozturk**, B. Dulek and S. Gezici, "Convexity properties of detection probability for noncoherent detection of a modulated sinusoidal carrier," **IEEE Transactions On Vehicular Technology**, vol. 67, no. 12, pp. 12410-12415, Dec. 2018.

Conference Papers and Workshops

1. **C. Ozturk**, D. Guo, R. Berry and M. Honig, "Downlink spectral efficiency of low earth orbit satellite mega-Constellations," **Information Theory and Applications Workshop (ITA)**, San Diego, CA, USA, Feb 12-17, 2023, (Poster Presentation).

2. **C. Ozturk**, M. F. Keskin, H. Wymeersch and S. Gezici, "On the impact of hardware impairments on RIS-aided localization," **IEEE International Conference on Communications (ICC)**, Seoul, South Korea, May 16-20, 2022.

3. **C. Ozturk**, and S. Gezici, "Anchor placement in TOA based wireless localization networks via convex relaxation," **IEEE International Black Sea Conference on Communications and Networking (BlackSeaCom)**, Bucharest, Romania, May 24-28, 2021.

4. **C. Ozturk** and S. Gezici, "Eavesdropper selection strategies in wireless source localization networks", **IEEE International Conference on Communications (ICC)**, Dublin, Ireland, June 7-11, 2020.

Industrial & Academic Experience

5G Platform Project, ASELSAN / TUBITAK Aug. 2018 – Aug. 2021

A MATLAB library is implemented for 5G New Radio (NR) algorithms. In particular, algorithms for downlink syncronization, channel estimation using CSI-RS symbols and decoding of PUCCH symbols are developed.

Summer Intern

SESTEK Inc., Ankara, Turkey Aug. 2015 – Sep. 2015

ASELSAN Inc., Ankara, Turkey Aug. 2014 – Sep. 2014

Academic Service

Reviewer: IEEE Transactions on Signal Processing (TSP), IEEE Signal Processing Letters (SPL), and IEEE Sensors Journal.

Teaching Assistant Experience

Bilkent University

EEE-212: Microprocessors	Feb. 2018 – June 2018
EEE-431: Telecommunications I	Sep. 2018 – Jan. 2019
EEE-432: Telecommunications II	Feb. 2019 – June 2019
EEE-533: Random Processes	Sep. 2019 – Jan. 2020
EEE-391: Basics of Signals and Systems	Feb. 2020 – June 2020
EEE-431: Telecommunications I	Sep. 2020 – Jan. 2021
EEE-432: Telecommunications II	Feb. 2021 – June 2021
EEE-431: Telecommunications I	Sep. 2021 – Jan 2022
EEE-432: Telecommunications II	Feb. 2022 – Present
EEE-539: Detection and Estimation Theory	Feb. 2022 – Present

Skills

Languages

Turkish (Native), English (Fluent)

Programming

MATLAB, VHDL, Java.

References:

- Sinan Gezici: Professor, Department of Electrical and Electronics Engineering, Bilkent University.
- Michael Honig: Professor, Department of Electrical Engineering and Computer Science, Northwestern University.
- Henk Wymeersch: Professor, Department of Electrical Engineering, Chalmers University of Technology.