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Research Areas

Electrical and Electronics Engineering

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Unfolded Hybrid Beamforming With GAN Compressed Ultra-Low Feedback Overhead**
Balevi E., Andrews J. G.
IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS, vol.20, no.12, pp.8381-8392, 2021 (SCI-Expanded)

II. **Wideband Channel Estimation With a Generative Adversarial Network**
Balevi E., Andrews J. G.
IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS, vol.20, no.5, pp.3049-3060, 2021 (SCI-Expanded)

III. **High Dimensional Channel Estimation Using Deep Generative Networks**
Balevi E., Doshi A., Jalal A., Dimakis A., Andrews J. G.
IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, vol.39, no.1, pp.18-30, 2021 (SCI-Expanded)

IV. **Autoencoder-Based Error Correction Coding for One-Bit Quantization**
Balevi E., Andrews J. G.
IEEE TRANSACTIONS ON COMMUNICATIONS, vol.68, no.6, pp.3440-3451, 2020 (SCI-Expanded)

V. **Massive MIMO Channel Estimation With an Untrained Deep Neural Network**
Balevi E., Doshi A., Andrews J. G.
IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS, vol.19, no.3, pp.2079-2090, 2020 (SCI-Expanded)

VI. **Online Antenna Tuning in Heterogeneous Cellular Networks With Deep Reinforcement Learning**
Balevi E., Andrews J. G.
IEEE TRANSACTIONS ON COGNITIVE COMMUNICATIONS AND NETWORKING, vol.5, no.4, pp.1113-1124, 2019 (SCI-Expanded)

VII. **One-Bit OFDM Receivers via Deep Learning**
Balevi E., Andrews J. G.
IEEE TRANSACTIONS ON COMMUNICATIONS, vol.67, no.6, pp.4326-4336, 2019 (SCI-Expanded)

VIII. **An Inherent Fog Network: Brain-Spinal Cord-Nerve Networks**
Balevi E., Gitlin R. D.
IEEE ACCESS, vol.6, pp.9272-9280, 2018 (SCI-Expanded)

IX. **Optimizing the Number of Fog Nodes for Cloud-Fog-Thing Networks**
Balevi E., Gitlin R. D.

IEEE ACCESS, vol.6, pp.11173-11183, 2018 (SCI-Expanded)

X. **Interference mitigation in multiuser communication by faster than symbol rate sampling**
Balevi E., YILMAZ A. Ö.
PHYSICAL COMMUNICATION, vol.25, pp.148-157, 2017 (SCI-Expanded)

XI. **Analysis of Frequency Domain Oversampled MMSE SC-FDE**
Balevi E., YILMAZ A. Ö.
IEEE COMMUNICATIONS LETTERS, vol.20, no.2, pp.232-235, 2016 (SCI-Expanded)

XII. **A Physical Channel Model for Nanoscale Neuro-Spike Communications**
Balevi E., Akan O. B.
IEEE TRANSACTIONS ON COMMUNICATIONS, vol.61, no.3, pp.1178-1187, 2013 (SCI-Expanded)

Refereed Congress / Symposium Publications in Proceedings

I. **High Rate Communication over One-Bit Quantized Channels via Deep Learning and LDPC Codes**
Balevi E., Andrews J. G.
21st IEEE International Workshop on Signal Processing Advances in Wireless Communications, SPAWC 2020,
Georgia, United States Of America, 26 - 29 May 2020, vol.2020-May

II. **Compressed Representation of High Dimensional Channels using Deep Generative Networks**
Doshi A., Balevi E., Andrews J. G.
21st IEEE International Workshop on Signal Processing Advances in Wireless Communications, SPAWC 2020,
Georgia, United States Of America, 26 - 29 May 2020, vol.2020-May

III. **Spatial Indexing for System-Level Evaluation of 5G Heterogeneous Cellular Networks**
Amiri R., Balevi E., Andrews J. G., Mehrpouyan H.
92nd IEEE Vehicular Technology Conference (IEEE VTC-Fall), ELECTR NETWORK, 4 - 07 October 2020

IV. **Deep learning-based encoder for one-bit quantization**
Balevi E., Andrews J. G.
2019 IEEE Global Communications Conference, GLOBECOM 2019, Hawaii, United States Of America, 9 - 13
December 2019

V. **A novel deep reinforcement learning algorithm for online antenna tuning**
Balevi E., Andrews J. G.
2019 IEEE Global Communications Conference, GLOBECOM 2019, Hawaii, United States Of America, 9 - 13
December 2019

VI. **Synergies between cloud-fag-thing and brain-spinal cord-nerve networks**
Balevi E., Gitlin R. D.
2018 Information Theory and Applications Workshop, ITA 2018, California, United States Of America, 11 - 16
February 2018

VII. **A clustering algorithm that maximizes throughput in 5G heterogeneous F-RAN networks**
Balevi E., Gitlin R. D.
2018 IEEE International Conference on Communications, ICC 2018, Missouri, United States Of America, 20 - 24 May
2018, vol.2018-May

VIII. **ALOHA-NOMA for Massive Machine-to-Machine IoT Communication**
Balevi E., Rabee F. T. A., Gitlin R. D.
2018 IEEE International Conference on Communications, ICC 2018, Missouri, United States Of America, 20 - 24 May
2018, vol.2018-May

IX. **Enhanced Diversity and Network Coded 5G Wireless Fog-Based-Fronthaul Networks**
Sulieman N. I., Balevi E., Gitlin R. D.
88th IEEE Vehicular Technology Conference, VTC-Fall 2018, Illinois, United States Of America, 27 - 30 August 2018,
vol.2018-August

X. **Multiuser Diversity Gain in Uplink NOMA**
Balevi E.

88th IEEE Vehicular Technology Conference, VTC-Fall 2018, Illinois, United States Of America, 27 - 30 August 2018, vol.2018-August

XI. **Stochastic geometry analysis of IEEE 802.15.6 UWB WBAN performance with game theoretical power management**
Balevi E., Gitlin R. D.
19th IEEE Wireless and Microwave Technology Conference, WAMICON 2018, Florida, United States Of America, 9 - 10 April 2018, pp.1-5

XII. **Near-instant link failure recovery in 5G wireless fog-based-fronthaul networks**
Sulieman N. I., Balevi E., Gitlin R. D.
17th Annual Wireless Telecommunications Symposium, WTS 2018, Arizona, United States Of America, 18 - 20 April 2018, vol.2018-April, pp.1-6

XIII. **Enabling slotted Aloha-NOMA for massive M2M communication in IoT networks**
Elkourdi M., Mazin A., Balevi E., Gitlin R. D.
19th IEEE Wireless and Microwave Technology Conference, WAMICON 2018, Florida, United States Of America, 9 - 10 April 2018, pp.1-4

XIV. **Pareto optimization for uplink NOMA power control**
Balevi E., Gitlin R. D.
17th Annual Wireless Telecommunications Symposium, WTS 2018, Arizona, United States Of America, 18 - 20 April 2018, vol.2018-April, pp.1-5

XV. **Reliable and resilient coordinated multi point fronthaul networks**
Sulieman N. I., Balevi E., Gitlin R. D.
19th IEEE Wireless and Microwave Technology Conference, WAMICON 2018, Florida, United States Of America, 9 - 10 April 2018, pp.1-4

XVI. **Unsupervised machine learning in 5G networks for low latency communications**
Balevi E., Gitlin R. D.
36th IEEE International Performance Computing and Communications Conference, IPCCC 2017, California, United States Of America, 10 - 12 December 2017, vol.2018-January, pp.1-2

XVII. **Reliable Low Resolution 01-4DM Receivers via Deep Learning**
Balevi E., Andrews J. G.
52nd Asilomar Conference on Signals, Systems, and Computers, California, United States Of America, 28 October - 01 November 2018, pp.697-701

XVIII. **A Random Access Scheme for Large Scale 5G/IoT Applications**
Balevi E., Gitlin R. D.
IEEE 5G World Forum (5GWF), Santa-Clara, Cuba, 9 - 11 July 2018, pp.452-456

XIX. **Quantifying The Improvement of MMSE Equalizers by Faster Sampling Rates**
Balevi E., YILMAZ A. Ö.
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017

XX. **A Novel Practical CP Based Mismatched MMSE Equalization**
Balevi E., YILMAZ A. Ö.
IEEE Wireless Communications and Networking Conference (WCNC), San-Francisco, Costa Rica, 19 - 22 March 2017

XXI. **Diversity and Network Coded 5G Fronthaul Wireless Networks for Ultra Reliable and Low Latency Communications**
Sulieman N. I., Balevi E., Davaslioglu K., Gitlin R. D.
28th Annual IEEE International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC), Montreal, Canada, 8 - 13 October 2017

Scientific Refereeing

IEEE TRANSACTIONS ON COMMUNICATIONS, SCI Journal, December 2020

Metrics

Publication: 33
Citation (WoS): 305
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H-Index (Scopus): 12